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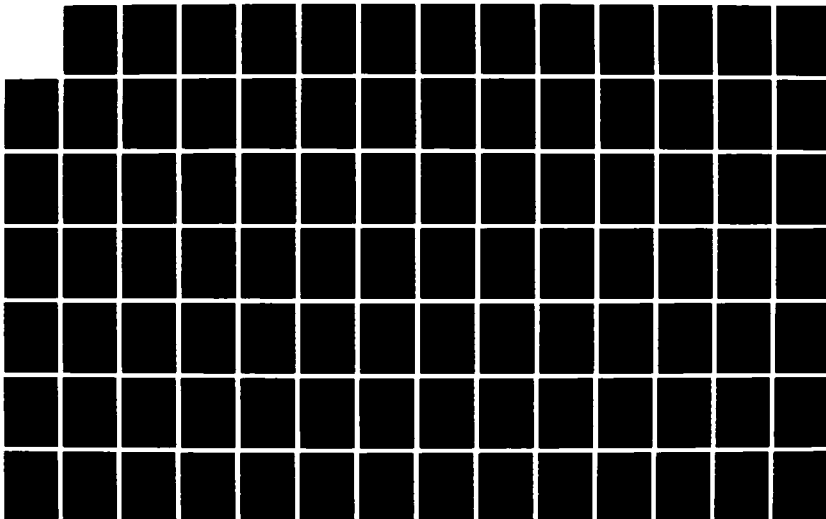
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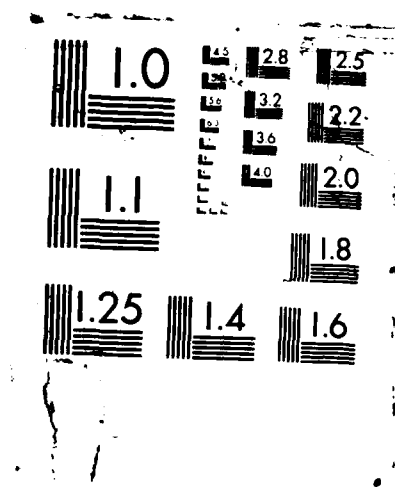
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## BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

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4. TITLE (and Subtitle) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, No. 84 JULY - AUGUST 1986		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Intelligence Agency Directorate for Scientific and Technical Intelligence		12. REPORT DATE August 27, 1987
		13. NUMBER OF PAGES 113
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited		
17. Distribution Statement (of the abstract entered in Block 20, if different from report)		
18. Supplementary Notes		
19. KEY WORDS Solid State Lasers, Liquid Lasers, Gas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, Laser Crystal Growing, Free Electron Lasers, Laser Theory, Laser Biological Effects, Laser Communications, Laser Beam Propagation, Adaptive Optics, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Parameters, Laser Measurement Applications, Laser-Excited Optical Effects, Laser Spectroscopy, Laser Beam-Target Interaction, Laser Plasma		
20. ABSTRACT This is the Soviet Laser Bibliography for July-August 1986, and is No. 84 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications systems; beam propagation; adaptive optics; computer technology; holography; laser- induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.		

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## INTRODUCTION

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is July-August 1986, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Soviet Reference Journals (journals of abstracts) are also included. Laser items from the popular or semipopular press are generally omitted. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library.

Since our computer is not now able to print between lines, superscripts and subscripts are indicated by (sup) and (sub).

We are producing the entire bibliography on computer. To make our bibliography compatible with other data bases, for source abbreviations, we use the letter codens generally used in our own government rather than transliterations of abbreviations used in the Soviet Union. Likewise, we use letter codens to designate affiliations. The authors' affiliations are indicated in parentheses after the authors' names in the text. Empty parentheses indicate that the affiliation was not given. A source abbreviations list, authors' affiliations list, and author index are included in the back of the bibliography.

# SOVIET LASER BIBLIOGRAPHY, JULY-AUGUST 1986

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## I. BASIC RESEARCH

### A. SOLID STATE LASERS

#### 1. Crystal

##### a. Miscellaneous

1. Antipenko, B.M.; Glebov, A.S.; Krutova, L.I.; Solntsev, V.M.; Sukhareva, L.K. (). Active medium for lasers emitting in the two-micron spectral region and utilizing gadolinium-scandium-gallium garnet crystals. KVEKA, no. 7, 1986, 1521-1523.
2. Ayupov, B.M.; Protasova, V.I.; Pavlyuk, A.A.; Kharchenko, L.Yu. (INKh). Optical properties of various binary alkali rare-earth tungstates with an  $\alpha$ -KY[WO(sub4)](sub2) structure. IVNMA, no. 7, 1986, 1156-1160.
3. Beterov, I.M.; Drozdova, O.V.; Kolyago, S.S.; Matts, R.E. (ITF). Optical and lasing characteristics of Tl(sup0) (1) color centers in a KCl:Tl crystal. KVEKA, no. 7, 1986, 1524-1525.
4. Grigor'yev, V.N.; Yegorov, G.N.; Zharikov, Ye.V.; Mikhaylov, V.A.; Pak, S.K.; Pinskiy, Yu.A.; Shklovskiy, Ye.I.; Shcherbakov, I.A. (IOF). GSGG [gadolinium-scandium-gallium-garnet]-Cr-Nd laser with a prismatic resonator and polarized radiation output. IOF. Preprint, no. 52, 1986, 7 p. (RZFZA, 86/7L947).
5. Karaseva, L.G.; Konstantinov, N.Yu.; Gromov, V.V.; Kalagin, A.P.; Novikov, V.K.; Nikolayev, V.N. (). Interrelation of the formation of unstable color centers in laser crystals with their lasing characteristics. ZPSBA, vol. 45, no. 2, 1986, 205-210.
6. Kolerov, A.N. (VNIFTRI). Condensation of the spectrum of the radiation of wideband solid-state lasers. KVEKA, no. 8, 1986, 1645-1651.
7. Krumin', A.E.; Seglin'sh, Ya.A.; Odulov, S.G.; Kuz'minov, Yu.S.; Polozkov, N.M. (LatGU). Detection of lasing from frequency-degenerate pumping in cerium-doped barium-strontium niobate crystals. PZTFD, no. 1, 1986, 6-10.
8. Nazvanova, V.A. (). Use of lithium niobate and tantalate single crystals in foreign technology. Aktual'nyye voprosy proizvodstva i primeneniya redkikh elementov. Moskva, 1985, 54-60. (RZRAB, 86/7Ye98).

9. Tsyashchenko, Yu.P.; Grekhov, A.M.; Danchuk, V.D. (). Structure of electron energy levels of impurity clusters in NaCl crystals doped by  $\text{CrO}(\text{sub}4)(\text{sup}2-)$   $\text{Ni}(\text{sup}2+)$  complexes. UFIZA, no. 7, 1986, 1065-1067.
10. Zharikov, Ye.V.; Zabavnov, A.M.; Prokhorov, A.M.; Shkadarevich, A.P.; Shcherbakov, I.A. (IOF). Using Cr- and Nd-doped gadolinium-scandium-gallium garnet crystals with photochromic centers as active elements in solid state lasers. IOF. Preprint, no. 105, 1986, 6 p. (RZFZA, 86/8L930).
- b. Ruby
- c. LiF

## 2. Rare Earth

- a. Miscellaneous
- b.  $\text{Nd}^{3+}$ 
  11. Bagdasarov, V.Kh.; Denisov, N.N.; Manenkov, A.A.; Starkovskiy, A.N. (IOF). YAG:Nd laser with pulse duration tuning in the range of 0.2 - 10 ms. KVEKA, no. 8, 1986, 1738-1740.
  12. Galaktionova, N.M.; Novikov, G.Ye.; Romanchenko, I.P.; Ustyugov, V.I. (GOI). Use of alkali flashlamps in low-noise c-w Nd:YAG lasers. OPMPA, no. 8, 1986, 40-43.
  13. Kaminskiy, A.A.; Belokoneva, Ye.L.; Butashin, A.V.; Kurbanov, K.; Markosyan, A.A.; Mill', B.V.; Nikol'skaya, O.K.; Sarkisov, S.E. (IKAN). Crystal structure and spectral-luminescence properties of cation-deficient  $\text{Ca}(\text{sub}3)[\text{Nb}, \text{Ga}](\text{sub}2)\text{Ga}(\text{sub}3)\text{O}(\text{sub}12)-\text{Nd}^{3+}$  garnet. IVNMA, no. 7, 1986, 1061-1071.
  14. Kaminskiy, A.A.; Belokoneva, Ye.L.; Mill', B.V.; Tamazyan, S.A.; Kurbanov, K. (IKAN). Crystal structure, spectral-luminescence properties and stimulated emission in gallium gehlenite. IVNMA, no. 7, 1986, 1138-1141.
- c.  $\text{Er}^{3+}$ 
  15. Golitsyn, A.V.; Lisin, V.N.; Khabibulin, B.M.; Shegeda, A.M. (). Resonance absorption of energy from ballistic phonons by Stark levels of rare-earth ions in YAG. FTVTA, no. 8, 1986, 2435-2440.

d. Ho<sup>3+</sup>

e. Tm<sup>3+</sup>

### 3. Semiconductor

#### a. Theory

16. Akul'shin, A.M.; Bazhenov, V.Yu.; Velichanskiy, V.L.; Zverkov, M.V.; Zibrov, A.S.; Nikitin, V.V.; Okhotnikov, O.G.; Sautenkov, V.A.; Senkov, N.V.; Yurkin, Ye.K. (FIAN). Anomalous continuous tuning of the frequency emitted by an injection laser with an external selective resonator. KVEKA, no. 7, 1986, 1391-1400.
17. Bezhan, N.P.; Brynzar', V.I.; Gitsu, D.V.; Ivanov, M.B.; Popushoy, V.V.; Syrbu, A.V. (KPI). Tunable superselective radiation detector based on an AlGaAs laser. PZTFD, no. 13, 1986, 783-787.
18. Darznek, S.A.; Tumanova, L.A. (VNITsISPIV). Nonaxial modes in inhomogeneously excited semiconductor lasers. KVEKA, no. 8, 1986, 1698-1700.
19. Murav'yev, A.V.; Nozdrin, Yu.N.; Shastin, V.N. (IPF). Quantum oscillations in gain and stimulated emission from inter-sub-band transitions in hot holes in p-Ge. ZFPRA, v. 43, no. 7, 1986, 348-350.
20. Suris, R.A.; Tager, A.A. (IRE). Anomalous reduction of the emission line of a semiconductor laser with a compound resonator. PZTFD, no. 13, 1986, 776-780.
21. Suris, R.A.; Tager, A.A. (IRE). Line width of the radiation of a semiconductor laser with a Bragg mirror. PZTFD, no. 14, 1986, 885-889.

#### b. Miscellaneous Homojunction

22. Aleksandrovich, K.V.; Druzhinin, V.V.; Kovalenko, V.A.; Tarasov, M.D. (). Shaping of light pulses of a semiconductor laser during excitation by several electron beams. KVEKA, no. 7, 1986, 1336-1341.

c. Miscellaneous Heterojunction

23. Aarik, Ya.A.; Gerst, A.V.; Laysaar, A.I.; Lyuk, P.A.; Mugra, A.K.Y.; Niylik, A.I.; Rozental', A.I.; Fridental, Ya.K. (). Effect of hydrostatic pressure on the characteristics of  $\text{Ga}(1-x)\text{Al}(x)\text{As}-\text{Ga}(1-y)\text{Al}(y)\text{As}$  and  $\text{GaSb}-\text{Ga}(1-x)\text{Al}(x)\text{As}(y)\text{Sb}(1-y)$  heterolasers. FTVDD, no. 21, 1986, 18-22. (RZFZA, 86/7L941).
24. Kizhayev, K.Yu.; Kuchinskiy, V.I.; Lazutka, A.S.; Nikishin, S.A.; Portnoy, Ye.L.; Smirnitskiy, V.B. (FTI). Experimental observation of size-quantization effects in heterolaser structures with random variations of quantum-size active-layer thicknesses. FTPPA, no. 7, 1986, 1222-1226.
25. Korostik, K.N. (). Allowing for the accumulated charge effect in semiconductor lasers while generating a sequence of closely spaced pulses. IVUBA, no. 4, 1986, 82-84. (RZFZA, 86/8L948).
26. Man'ko, M.A.; Mikayelyan, G.T. (FIAN). Analysis of gain-guided modes in active semiconductor waveguides. KVEKA, no. 7, 1986, 1506-1514.
27. Zhilenis, S.; Ul'bikas, Yu. (IFPV). Stimulated emission in graded gap layers of  $\text{Al}(x)\text{Ga}(1-x)\text{As}$  under optical excitation. LFSBA, no. 4, 1986, 448-452.

d. GaAs

e. CdS

28. Brodin, M.S.; Kipen', A.A.; Kukhtarev, N.V.; Piryatinskiy, Yu.P.; Yanushevskiy, N.I. (IFANUK). Light-induced scattering in lasing CdS type single crystals. UFIZA, no. 5, 1986, 652-655.



- f. ZnSe
  - g.  $\text{Pb}(1-x)\text{Sn}(x)\text{Te}$
  - h. InGaAsP
29. Yeliseyev, P.G.; Sverdlov, B.N.; Ismailov, I.; Shokhudzhayev, N. (FIAN, FTIANTadzh). Influence of anisotropic deformation on emission properties of GaInAsP/InP lasers. I. Lasing threshold, polarization and watt-ampere characteristics. KVEKA, no. 8, 1986, 1603-1609.
  30. Yeliseyev, P.G.; Sverdlov, B.N.; Ismailov, I.; Shokhudzhayev, N. (FIAN, FTIANTadzh). Influence of anisotropic deformation on emission properties of GaInAsP/InP lasers. II. Spectral characteristics and discussion. KVEKA, no. 8, 1986, 1610-1616.
  31. Yeliseyev, P.G.; Sverdlov, B.N.; Tsimberova, I.S. (FIAN). Emission and degradation characteristics of InGaAsP/InP heterostructures. KVEKA, no. 7, 1986, 1376-1380.

#### 4. Glass

- a. Miscellaneous
32. Kuchma, I.G.; Fedorov, Yu.K.; Fromzel', V.A. (). Sensitization of ytterbium-erbium glass by chromium ions in an amplification mode. OPSPA, vol. 61, no. 1, 1986, 95-102.
  33. Murzin, A.G.; Pivinskiy, Ye.G.; Prilezhayev, D.S.; Fromzel', V.A. (). Bleaching of ytterbium-erbium glass under pumping by a neodymium-glass laser. OPSPA, vol. 61, no. 1, 1986, 187-190.
- b. Nd
34. Buchenkov, V.A.; Stepanov, A.I.; Shashkin, V.V. (). Temperature field of the active element of a neodymium glass laser in a quasi-adiabatic regime. ZPSBA, vol. 45, no. 2, 1986, 198-205.
  35. Drobnik, A.; Rozniakowski, K. (). Neodymium glass laser emitting an ordered sequence of light pulses (in English). OPAPB, no. 2, 1985, 201-205. (RZFZA, 86/7L1028).
  36. Fromzel', V.A. (). Contribution of ultraviolet absorption bands of  $\text{Nd}(\text{sup}3+)$  glass ions in lasing power. OPSPA, vol. 61, no. 1, 1986, 149-152.

c. Er

B. LIQUID LASERS

1. Organic Dyes

a. Miscellaneous

37. Alekseyev, V.A.; Strigun, V.L.; Shulenin, A.V. (). Uniformity of the intensity distribution and spatial coherence of radiation from flashlamp-pumped dye lasers. ZPSBA, vol. 45, no. 1, 1986, 137-139.
38. Berik, Ye. (IFANest). Statistical properties of pulsed dye laser radiation. IFANest. Preprint, no. F-35, 1986, 16 p.
39. Farkas, E.; Hilbert, M.; Ketskemety, I.; Gati, L. (). Fluorescence properties of bichromophoric laser dyes (in English). APYCA, no. 3-4, 1985, 711-715. (RZFZA, 86/8L904).
40. Levin, M.B.; Todres, Z.V.; Cherkasov, A.S. (). Flashlamp-pumped lasers utilizing water-micellar dye solutions. KVEKA, no. 7, 1986, 1409-1414.
41. Lokhnygin, V.D.; Silichev, O.O.; Fomichev, A.A. (). Thermal lens in the active element of a quasi-c-w dye laser and its effect on the lasing efficiency. Difraktsiya i rasprostraneniya voln. MFTI. Moskva, 1985, 135-139. (RZRAB, 86/7Ye90).
42. Strizhnev, V.S.; Shigalev, K.A. (). Resonator with a telescopic mirror system for dye lasers with lamp excitation. ZPSBA, vol. 45, no. 1, 1986, 140-142.
43. Zhil'tsov, V.I.; Klimashina, A.G.; Mnuskin, V.Ye.; Nikiforov, V.G.; Tokareva, A.N.; Trinchuk, B.F. (). Tunable dye laser in a solid LKI-501 matrix. ZPSBA, vol. 45, no. 1, 1986, 35-39.

b. Rhodamine

44. Nenchev, M.N. (). Multifrequency laser with alternately changing frequencies of axial radiation. Author's certificate Bulgaria, no. 36025, 30 Aug 1984. (RZRAB, 86/8Ye166).

- c. Polymethine
- d. Coumarin
- e. Phthalimide
- f. Cyanine
- g. Xanthene
- h. POPOP

## 2. Inorganic Liquids

### C. GAS LASERS

#### 1. Theory

- 45. Abramov, V.P.; Kerner, B.S.; Udal'tsov, B.V. (). Space-homogeneous oscillations in a gas laser discharge. ZTEFA, no. 8, 1986, 1530-1535.
- 46. Askar'yan, G.A.; Rayevskiy, I.M. (IOF). Generation of quick-alternating voltage and current pulses during exposure of a target in the atmosphere to a laser pulse train. KVEKA, no. 8, 1986, 1701-1703.
- 47. Dorofeyev, I.A.; Sokolov, V.A. (LGU). Effect of population modulation on the frequency characteristics of ring gas lasers in the case of a "strong" laser field. VINITI. Deposit, no. 2669-V, 14 Apr 1986, 28 p. (RZFZA, 86/8L845).
- 48. Gadiyak, G.V.; Nasyrov, K.A. (ITPM). Numerical modeling of gas-discharge flow-through lasers. ITPM. Preprint, no. 2, 1986, 26 p. (RZFZA, 86/7L911).
- 49. Golubentsev, A.F.; Gol'dman, S.Yu.; Minkin, L.M.; Rabinovich, E.M.; Tuchin, V.V. (). Effect of thermal diffusion on the lens properties of the active medium in gas lasers. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 65-72. (RZRAB, 86/8Ye113).
- 50. Korolenko, P.V.; Makarov, V.G.; Stepina, S.A. (MGU). Amplitude-phase and frequency characteristics of multipass mode gas lasers. VMUFA, no. 2, 1986, 59-61. (RZFZA, 86/8L969).
- 51. Kubicki, J.; Szozezan, Z.; Janulewicz, K.; Fronczykowski, J. (). Laser with a profiled transverse distribution of the beam. Patent Poland, no. 129237, 14 Sep 1985. (RZRAB, 86/7Ye81).

52. Schramm, W. (). Pulsed gas laser. Patent GDR, no. 228942, 23 Oct 1985. (RZRAB, 86/8Yel142).
53. Vstovskiy, G.V.; Kozlov, G.I. (IPMe). Propagation of weak shock waves in a vibrational non-equilibrium gas. ZTEFA, no. 8, 1986, 1536-1542.

## 2. Simple Mixtures

- a. Miscellaneous
  - b. He-Ne
54. Afanas'yev, V.S.; Izmaylov, A.Ch.; Mironov, V.D. (MIFI). Mode competition in a gas laser tuned by an axial magnetic field. KVEKA, no. 7, 1986, 1478-1483.
  55. Grimblatov, V.M.; Kalugin, V.V.; Lu Guk Dok; Mikhaylovskaya, L.V. (). Effect of the optical properties of the active medium in He-Ne lasers on the spatial characteristics of the laser beams. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 44-50. (RZRAB, 86/8Yel12).
  56. Koch, E.O.; Wendler, D. (). Gas laser with internal mirrors at high output power stability. Patent GDR, no. 225271, 24 Jul 1985. (RZRAB, 86/8Yel15).
  57. Sakyan, A.S. (). Single-mode regime of lasing of an LG-52-2 laser at 3.39 mkm. PRTEA, no. 4, 1986, 141-142.
- c. He-Xe
  - d. He-Kr
  - e. Ar-Xe
58. Basov, N.G.; Baranov, V.V.; Danilychev, V.A.; Dudin, A.Yu.; Zayarnyy, D.A.; Rzhavskiy, A.V.; Ustinovskiy, N.N.; Kholin, I.V.; Chgunov, A.Yu. (FIAN). Large-volume repetitively pulsed electroionization laser based on infrared transitions in a Xe atom with a specific output power of 0.5 - 1 W/cm(sup2). KVEKA, no. 8, 1986, 1543-1544.

### 3. Molecular Beam and Ion

#### a. Miscellaneous

59. Averin, A.P.; Basov, N.G.; Glotov, Ye.P.; Danilychev, V.A.; Karpov, G.N.; Malysh, M.M.; Sazhina, N.N.; Soroka, A.M.; Cheburkin, N.V. (FIAN). Ultimate energy inputs and field intensities in a continuous electroionization discharge in molecular gases. KVEKA, no. 7, 1986, 1323-1327.

#### b. Carbon Dioxide

60. Albrecht, H.; Alexandrescu, R.; Chis, I.; Dragulinescu, D.; Grigoriu, C.; Morjan, I.; Radloff, W. (). Single mode operation of a CO<sub>2</sub> hybrid laser (in English). RRPQA, no. 10, 1985, 831-836. (RZFZA, 86/8L875).
61. Badziak, J.; Borzecki, M.; Chojnacka, A.; Dzwigalski, Z.; Kalbarczyk, A.; Kurzynski, Z.; Perlinski, L.; Teter, J. (). Double-sided high-energy e-beam-controlled CO<sub>2</sub> laser amplifier (in English). JTPHD, no. 1, 1985, 41-53. (RZFZA, 86/8L857).
62. Belen'kiy, A.M.; Vasil'tsov, V.V.; Golubev, V.S.; Zabelin, A.M.; Lebedev, F.V.; Leonov, P.G.; Medvedev, D.K.; Morozenkov, A.A.; Chekin, S.K.; Shakirov, R.G. (NITsTLAN). High-power industrial CO<sub>2</sub> laser operation under conditions of the amplification of repetitively pulsed radiation. KVEKA, no. 8, 1986, 1720-1722.
63. Ciura, A.I.; Grigoriu, C.; Velculescu, V.G. (). Electron energy distribution in a seeded CO<sub>2</sub> laser mixture (in English). RRPQA, no. 8, 1985, 677-683. (RZRAB, 86/7Ye28).
64. Dembovetskiy, V.V.; Surdutovich, G.I. (). Hysteresis phenomena and passive Q-switching in CO<sub>2</sub> lasers with nonlinear absorption. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 111-116. (RZRAB, 86/8Ye78).
65. Gerasimchuk, A.G.; Kornilov, S.T.; Protsenko, Ye.D. (MIFI). Frequency tuning of radiation from waveguide CO<sub>2</sub> lasers with radio-frequency excitation of an active medium. KVEKA, no. 8, 1986, 1670-1674.
66. Ivanchenko, A.I.; Krashenninnikov, V.V.; Ponomarenko, A.G. (ITPM). Research and development of CO<sub>2</sub> lasers for technology. ITPM. Preprint, no. 6, 1986, 40 p. (RZFZA, 86/8L1141).

67. Kirmusov, I.P.; Starik, A.M. (). Effect of the overlap of spectral lines on the lasing pulse form of a CO<sub>2</sub> laser. ZPSBA, vol. 45, no. 2, 1986, 188-193.
68. Lavrentyuk, V.Ye.; Podmoshenskiy, I.V.; Belyatskiy, A.F. (). Initiation of a self-sustained cavity discharge in lasers by radioisotopes. KVEKA, no. 7, 1986, 1451-1460.
69. Makarov, G.N. (ISAN). Control of CO<sub>2</sub> laser pulse duration by means of an intracavity cell containing a gas which absorbs infrared radiation. KVEKA, no. 8, 1986, 1665-1669.
70. Orishich, A.M.; Ponomarenko, A.G.; Posukh, V.G.; Snytnikov, V.N. (ITPM). Study on the principles for developing high-power CO<sub>2</sub> amplifiers in the microsecond range. VINITI. Deposit, No. 3080-V, 25 Apr 1986, 36 p. (RZRAB, 86/8Ye82).
71. Petrovskiy, V.N.; Rurukin, A.N.; Shananin, R.A. (). Investigation of metrological characteristics of dual-mode CO<sub>2</sub> laser. IZTEA, no. 8, 1986, 28-29.
72. Petukhov, V.O.; Sazhina, N.N.; Seregin, A.M.; Solodukhin, A.S.; Starovoytov, V.S.; Trushin, S.A.; Cheburkin, N.V.; Churakov, V.V. (IFANB). Properties of a CO<sub>2</sub> laser active medium containing isotopically substituted molecules of carbon dioxide and nitrogen. KVEKA, no. 8, 1986, 1725-1727.
73. Plinski, E.F.; Nowicki, R.; Rzepka, J. (). Frequency stabilization in c-w CO<sub>2</sub>/SF<sub>6</sub> lasers (in English). OPAPB, no. 3, 1985, 225-229. (RZFZA, 86/7L1000).
74. Starovoytov, V.S.; Trushin, S.A. (). Calculation of the probabilities of vibrational-rotational optical transition of symmetric isotopic carbon dioxide molecules. ZPSBA, vol. 45, no. 1, 1986, 149-152.

c. Carbon Monoxide

75. Basov, N.G.; Kipshakbayev, A.I.; Kovsh, I.B.; Panteleyev, V.I. (FIAN). Change in the chemical composition of the active medium of a CO laser under pulsed-periodic electroionization stimulation. ZTEFA, no. 8, 1986, 1573-1579.
76. Grinchenko, V.T.; Derbenev, A.S.; Drimanov, A.P.; Ivanovskiy, G.F.; Kovsh, I.B.; Lesnov, I.A.; Pansov, V.N.; Pankratov, V.V.; Sagitov, S.I. (FIAN). Durable optical elements for pulsed CO lasers. FIAN. Preprint, no. 73, 1986, 11 p. (RZFZA, 86/7L672).
77. Kornilov, S.T.; Tymper, S.I. (MIFI). Experimental study on gain in waveguide CO lasers. MIFI. Preprint, no. 37, 1985, 22 p. (RZFZA, 86/7L918).
78. Kovsh, I.B.; Lesnov, I.A.; Pyatakhin, M.V.; Sobolev, V.A.; Urin, B.M. (FIAN). Stability of a volumetric discharge in an active medium of a pulsed cooled electroionization CO laser. ZTEFA, no. 7, 1986, 1336-1342.

d. Noble Gas

79. Sinichkin, Yu.P. (). Mode competition in stable and unstable resonators in argon ion lasers. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 62-65. (RZRAB, 86/8Ye645).

e. Nitrogen

80. Batygov, A.A.; Gritsenko, A.N.; Morozov, V.I.; Papakin, V.F.; Saranov, A.A.; Selivanov, V.V.; Sonin, A.Yu. (). Miniature nitrogen laser with transverse stimulation. PRTEA, no. 4, 1986, 223.

f. Iodine

g. Hydrogen

h. Ammonia

81. Akhrarov, M.; Vasil'yev, B.I.; Grasyuk, A.Z.; Soskov, V.I.; Yastrebkov, A.B. (FIAN). Two-photon optically pumped (supl5)NH(sub3) laser. KVEKA, no. 8, 1986, 1555-1559.
82. Akhrarov, M.; Vasil'yev, B.I.; Soskov, V.I. (FIAN). Spectroscopic schemes of optical pumping of a (supl5)NH(sub3) laser. KVEKA, no. 8, 1986, 1691-1693.

- i. Carbon Tetrafluoride
  - j. Nitrous Oxide
  - k. Water Vapor
  - l. Heavy-Water Vapor
  - m. Submillimeter
  - n. Metal Vapor
83. Bazhulin, S.P.; Basov, N.G.; Bugrimov, S.N.; Zuyev, V.S.; Kamrukov, A.S.; Kashnikov, G.N.; Kozlov, N.P.; Ovchinnikov, P.A.; Opekan, A.G.; Protasov, Yu.S. (FIAN; MVTU). Three-color visible molecular mercury-halide vapor laser with wideband optical pumping. KVEKA, no. 7, 1986, 1515-1517.
  84. Bokhan, P.A. (ITF). Mechanism for the limitation of the emission pulse repetition rate in a barium-vapor laser. KVEKA, no. 8, 1986, 1595-1602.
  85. Divin, V.D.; Isakov, V.K. (). Pulsed lead-vapor laser at increased excitation pulse repetition frequencies. KVEKA, no. 8, 1986, 1657-1664.
  86. Yelagin, V.V.; Kabanov, I.A.; Fotiadi, A.E. (). Measurement of the concentration of atomic-cadmium and excited atomic-helium density in a He-Cd laser discharge. OPSPA, vol. 61, no. 2, 1986, 267-272.
  87. Znamenskiy, N.V.; Istomin, M.I.; Kalinin, Yu.G.; Shashkov, A.Yu. (). Time characteristics of stimulated radiation during resonance excitation of rubidium vapors. PZTFD, no. 16, 1986, 1015-1020.
  88. Znamenskiy, N.V.; Korniyenko, L.S.; Mnuskin, V.Ye.; Odintsov, V.I.; Tokareva, A.N.; Trinchuk, B.F. (MGU). Stimulated emission in the IR by resonance excitation of alkali metal atoms. VMUFA, no. 2, 1986, 54-56. (RZFZA, 86/8L903).
  - o. Gasdynamic
  89. Volkov, A.Yu.; Kudryavtsev, Ye.M.; Logunov, A.N. (FIAN). Effect of vibrational nonequilibrium in molecules in the subcritical part of the nozzle, on the results of temperature calculations in gasdynamic lasers using coupled modes of CO<sub>2</sub>. FIAN. Preprint, no. 75, 1986, 18 p. (RZFZA, 86/7L928).



#### 4. Excimer

90. Ageyev, V.P.; Atezhev, V.V.; Baranov, I.N.; Bukreyev, V.S.; Volkova, R.V.; Vartapetov, S.K.; Zhukov, A.N.; Konov, V.I.; Savel'yev, A.D. (IOF). Model 1701 excimer laser. KVEKA, no. 8, 1986, 1744.
91. Ageyev, V.P.; Atezhev, V.V.; Bukreyev, V.S.; Vartapetov, S.K.; Zhukov, A.N.; Konov, V.I.; Savel'yev, A.D. (SKBFP). Pulse-periodic excimer laser with a magnetic compression unit. ZTEFA, no. 7, 1986, 1387-1389.
92. Donin, V.I.; Khapov, Yu.I. (IAESOAN). "Laser snow" in a XeCl laser active medium. KVEKA, no. 8, 1986, 1583-1588.
93. Klementov, A.D.; Morozov, N.V.; Sergeyev, P.B. (FIAN). Electron-beam ArF laser. KVEKA, no. 8, 1986, 1730-1733.
94. Miydla, P.; Tamme, E.; Sherman, A. (). Modeling of discharges in HCl/Xe/He mixtures. ETFMB, no. 1, 1986, 77-85. (RZFZA, 86/7G299).

#### 5. Dye Vapor

95. Lukinykh, V.F.; Myslivets, S.A.; Popov, A.K.; Slabko, V.V. (IFSOAN). Four-wave frequency mixing in dye vapors. KVEKA, no. 7, 1986, 1415-1423.

#### D. CHEMICAL LASERS

##### 1. Miscellaneous

##### 2. Fluorine + Hydrogen (Deuterium)

96. Bel'dyugin, I.M.; Vysotskiy, Yu.P.; Stepanov, A.A.; Shcheglov, V.A. (FIAN). Simulation of a continuous action HF laser with optical resonance transmission of energy. KHFID, no. 8, 1986, 1018-1024.
97. L'vov, V.I.; Stepanov, A.A.; Shcheglov, V.A. (). Analytic model of an HF laser using optical resonance energy transfer. OPSPA, vol. 61, no. 1, 1986, 159-164.

### 3. Photodissociation

98. Benderskiy, V.A.; Misochko, Ye.Ya.; Filippov, P.G. (IKhF). Kinetic features of chemical chain reactions in the vitrification of a mixture of reactants. KHFID, no. 7, 1986, 955-963.
99. Bokun, V.Ch.; Gordon, Ye.B.; Krasnoperov, L.N.; Sotnichenko, S.A.; Chichinin, A.I. (IKhF). Photodissociation laser using a fine structure ( $\sup{6}P(\sub{1}{2})$  to  $\sup{2}P(\sub{3}{2})$  electron transition in a chlorine atom. KVEKA, no. 7, 1986, 1319-1320.
100. Chvojka, M.; Skala, J.; Kralikova, B.; Schmiedberger, J. (). The Perun [ancient Slavic pagan god of lightning] iodine photodissociation laser with a pulse power up to 10 gigawatts (in Czech). JMKOA, no. 1, 1986, 5-8. (RZFZA, 86/7L933).

### 4. Transfer

#### 5. Oxygen + Iodine

#### 6. Carbon Disulfide + Oxygen

#### 7. Sulfur Hexafluoride + Hydrogen

## E. COMPONENTS

### 1. Miscellaneous

### 2. Resonators

#### a. Design and Performance

101. Ishchenko, A.V.; Karpilenko, A.V. (GOI). Statistical analysis of the position of an axis of eigen waves of an optical resonator. OPMPA, no. 8, 1986, 9-10.
102. Jankiewicz, Z. (). Effect of change in resonator losses during lasing, on the parameters of laser radiation (in Polish). EKNTB, no. 8, 1985, 3-9,1. (RZFZA, 86/7L1032).
103. Kocharovskaya, O.A. (GGU). Passive mode-locking in a laser with a Raman-active filter. IVYRA, no. 7, 1986, 863-865.
104. Lukin, K.A.; Poyedinchuk, A.Ye.; Shestopalov, V.P. (IRFEANUK). Theory of excitation of open resonators by nonlinear currents. DANKA, v. 286, no. 3, 1986, 625-629.

b. Mode Kinetics

105. Antyukhov, V.V.; Glova, A.F.; Kachurin, O.R.; Lebedev, F.V.; Likhanskiy, V.V.; Napartovich, A.P.; Pis'mennyy, V.D. (). Efficient phase locking of a set of lasers. ZFPRA, vol. 44, no. 2, 1986, 63-65.
106. Ayvazyan, Yu.M.; Bayev, V.M.; Kachanov, A.A.; Kovalenko, S.A. (FIAN). Self-oscillation of a multimode wideband laser spectrum. KVEKA, no. 8, 1986, 1723-1725.
107. Bel'tyugov, V.N.; Kuznetsov, A.A.; Ochkin, V.N.; Sobolev, N.N.; Troitskiy, Yu.V.; Udalov, Yu.B. (FIAN). Frequency selectivity and losses of a resonator in a waveguide laser with a diffraction grating. KVEKA, no. 7, 1986, 1342-1351.
108. Botygina, N.N.; Lukin, V.P.; Frizen, A.G. (IOA). Mode correction of optical wave turbulent distortions. KVEKA, no. 8, 1986, 1652-1656.
109. Krivtsov, Ye.P.; Luk'yanov, D.P.; Filatov, Yu.V. (). Counter-propagating wave interference of a ring laser in an independent coordinate frame. OPSPA, vol. 61, no. 1, 1986, 144-148.
110. Silichev, O.O. (MFTI). Behavior of nonlinear resonator modes. KVEKA, no. 8, 1986, 1560-1565.
111. Timofeyev, V.I. (). Theory of wave interaction in dual-mode ring lasers with controlled phase anisotropy. KVEKA, no. 8, 1986, 1578-1582.

3. Pump Sources

112. Chandjiewa, B.; Riemann, M. (). Efficiency of optical pumping systems with elliptical cylinder reflectors. FGRTA, no. 3, 1986, 120-121. (RZRAB, 86/8Ye688).
113. Il'in, G.I.; Morozov, O.V.; Pol'skiy, Yu.B.; Ternovskov, V.T. (KAI). Reservoir capacitor charger. OTIZD, no. 47, 1985, 1200368. (RZRAB, 86/7Ye483).
114. Jankiewicz, Z.; Pichola, W.; Skubis, A.; Garwola, Z.; Wejekowa, [initial not given]. (). Pulsed power supply for lasers. Patent Poland, no. 130743, 30 Aug 1985. (RZRAB, 86/8Ye681).
115. Kapishnikov, N.K. (NIIVN). High voltage nanosecond pulse generator. PRTEA, no. 4, 1986, 94-96.

116. Pokora, L. (). High-power laser device pumped by deuteron- and neutron-beams. Patent Poland, no. 130792, 30 Dec 1985. (RZRAB, 86/8Ye684).
117. Pokora, L. (). High-power laser device pumped by deuteron- and neutron-beams. Patent Poland, no. 130789, 30 Dec 1985. (RZRAB, 86/8Ye685).
118. Pokora, L. (). High-power laser device pumped by electron- and neutron-beams. Patent Poland, no. 130791, 30 Dec 1985. (RZRAB, 86/8Ye686).
119. Pokora, L. (). Pulsed high-power laser pumped by neutron-beams. Patent Poland, no. 130790, 30 Dec 1985. (RZRAB, 86/8Ye687).
120. Rybalov, A.M.; Soldatov, A.N.; Solotonov, V.I.; Sharabarin, Ye.V.; Muratov, V.M.; Kapishnikov, N.K. (IOA). Unit for the excitation of gases and metal vapors by an electron beam. PRTEA, no. 4, 1986, 127-129.

#### 4. Cooling Systems

##### 5. Deflectors

##### 6. Attenuators

121. Eberlein, D.; Lippmann, W. (). Optical attenuator. Patent GDR, no. 228365, 9 Oct 1985. (RZRAB, 86/8Ye592).
122. Oleynikov, A.D. (). Variable fiberoptic attenuator. OTIZD, no. 1, 1986, 1203457. (RZRAB, 86/8Ye548).

##### 7. Collimators

123. Ponec, J. (). Adjustment of collimation systems for transformation of Gaussian beams of He-Ne laser radiation (in Czech). AUONA, no. 23, 1984, 199-205. (RZFZA, 86/7L666).

#### 8. Diffraction Gratings

124. Pilipovich, V.A.; Romanov, A.V.; Yarmolitskiy, V.F. (). Obtaining large-length holographic gratings. VABFA, no. 1, 1986, 63-65. (RZFZA, 86/7L590).
125. Zubkov, Yu.N.; Sementsov, D.I. (KGPI). Diffraction efficiency of tunable garnet film domain gratings. UFIZA, no. 5, 1986, 770-772.

## 9. Focusers

126. Andreyev, L.N.; Andreyev, V.P.; Nikiforova, G.L. (). Optical systems for focusing monochromatic radiation. IVUBA, no. 3, 1986, 71-74. (RZFZA, 86/7L664).
127. Baranov, S.A. (GOI). Using photoresistors as image analyzers in optical system focusers. OPMPA, no. 3, 1986, 30-33. (RZFZA, 86/8L734).
128. Chigorko, A.B. (). Device to concentrate light. OTIZD, no. 5, 1986, 1210112. (RZRAB, 86/8Ye724).
129. Dubrovskiy, V.M. (). Method for automatic focusing of optical systems. OTIZD, no. 46, 1985, 1198441. (RZRAB, 86/7Ye562).
130. Jabczynski, J.; Jankiewicz, Z. (). Analysis of power density distribution near the focus of aberration-free high-speed focusing systems (in English). OPAPB, no. 2, 1985, 135-142. (RZFZA, 86/7L534).

## 10. Windows

## 11. Polarizers

131. Kaminskiy, A.A.; Mill', B.V.; Grechushnikov, B.N.; Konstantinova, A.F.; Okorochkov, A.I. (IKAN). Quarter-wave phase plate. OTIZD, no. 2, 1986, 1205092 A. (RZFZA, 86/7L713).

## 12. Beam Shapers

## 13. Lenses

132. Belinskiy, A.V.; Dubovik, A.S.; Malakhov, V.N.; Silant'yeva, I.A. (). Study on aberrational characteristics of lenses for coherent processing of photographic information. ZNPFA, no. 1, 1986, 24-30. (RZFZA, 86/7L535).
133. Gusarova, N.I.; Koshchavstsev, N.G.; Kol'be, S.S. (GOI). Unit for investigating the quality of infrared objective lenses. OPMPA, no. 7, 1986, 31-32.

## 14. Filters

134. Abrosimov, S.A.; Basiyev, T.T.; Brodov, M.Ye.; Ivanov, A.V.; Mirov, S.B.; Pashinin, P.P.; Serov, R.V.; Shashkov, Ye.V. (IOF). Laser pulse temporal shaping with the use of saturable filters. KVEKA, no. 8, 1986, 1718-1720.

135. Suslikov, L.M.; Gad'mashi, Z.P.; Slivka, V.Yu. (GOI). Optical filters for two lines, using gyrotropic crystals with an "isotropic" point. OPMPA, no. 2, 1986, 10-13. (RZFZA, 86/8L645).
136. Suslikov, L.M.; Slivka, V.Yu. (). Optical filters using gyrotropic crystals with an "isotropic" point oriented under different angles in the (010) plane. VINITI. Deposit, no. 2805-V, 17 Apr 1986, 11 p. (RZFZA, 86/8L644).

#### 15. Beam Splitters

137. Dolotko, V.I.; Krichevskiy, V.I.; Martynov, V.F.; Kharchenko, A.P. (GOI). Optical divider-switch of linear polarized light. OPMPA, no. 8, 1986, 25-28.

#### 16. Mirrors

138. Avrutskiy, I.A.; Golubenko, G.A.; Sychugov, V.A.; Tishchenko, A.V. (IOF). Spectral and laser characteristics of a mirror with a corrugated waveguide on its surface. KVEKA, no. 8, 1986, 1629-1632.
139. Cojocar, E. (). Reflectivity computations of multilayer soft x-ray mirrors (in English). RRPQA, no. 8, 1985, 691-696. (RZFZA, 86/7L667).
140. Gonchukov, S.A.; Protsenko, Ye.D.; Usov, P.A. (). Matching of a mirror to a hollow dielectric waveguide. OPSPA, vol. 61, no. 1, 1986, 165-168.
141. Kard, P. (). Application of antireflection coatings on absorbing films. ETFMB, no. 1, 1986, 9-19. (RZFZA, 86/7L676).
142. Matizen, Yu.E.; Troitskiy, Yu.V. (IAESOAN). Emission of nongaussian light beams from a laser with an output mirror featuring continuous amplitude inhomogeneity. KVEKA, no. 7, 1986, 1437-1441.
143. Minkov, I.M. (GOI). Selection of the thickness of plates of a stack, serving as a translucent mirror for a resonator. OPMPA, no. 7, 1986, 6-9.
144. Shlitteris, E.P.; Chenskaya, T.B. (GOI). Dependence of the transmission of a thin metal screen on the angle of incidence of optical radiation. OPMPA, no. 7, 1986, 4-6.

145. Vinogradov, A.V.; Kozhevnikov, I.V. (FIAN). Integrated characteristics and methods for designing multilayer mirrors in the soft x-ray range. FIAN. Preprint, no. 103, 1986, 30 p. (RZFZA, 86/8L640).
146. Vinogradov, A.V.; Kozhevnikov, I.V. (FIAN). Angular, dispersion and polarization properties of multilayer mirrors in the soft x-ray range. FIAN. Preprint, no. 102, 1986, 65 p. (RZFZA, 86/8L641).
147. Vokhnik, O.M.; Kuz'minov, Yu.S.; Polozkov, N.M. (IOF). Characteristics of a wave front reversal mirror utilizing a photorefractive strontium-barium niobate crystal. KVEKA, no. 8, 1986, 1633-1637.

#### 17. Detectors

148. Anshon, A.V.; Karpovich, I.A.; Safonov, A.A. (GGU). Heterojunctions based on II-IV-V(sub2) and III-V compounds. IVUFA, no. 8, 1986, 112-121.
149. Averin, A.P.; Glotov, Ye.P.; Zolotaykin, V.M.; Kuz'michev, V.M.; Sazhina, N.N. (). Stability of bolometric detectors of laser radiation. IZTEA, no. 7, 1986, 26-27.
150. Benditskiy, A.A. (). High speed noncooled infrared radiation detector. PRTEA, no. 4, 1986, 182-183.
151. Koltok, Yu.V.; Latynin, Yu.M.; Priz, I.A. (). Action of periodic pulsed radiation on pyromagnetic detectors. RTKHA, no. 77, 1986, 80-83. (RZRAB, 86/8Ye666).
152. Popov, S.N.; Shubin, V.V. (GOI). Photodetectors based on operational amplifiers. OPMPA, no. 3, 1986, 33-35. (RZFZA, 86/8L623).

#### 18. Modulators

153. Bousseljat, R.D. (). Magneto optic light modulator. Patent GDR, no. 226093, 14 Aug 1985. (RZRAB, 86/8Ye300).
154. Danilov, V.V.; Savel'yev, D.A. (GOI). Modulation of CO2 laser radiation by a phase cholesteric-nematic transition. GOI. Trudy, no. 194, 1986, 81-91. (RZFZA, 86/8L988).

155. Freyer, W. (). Solvent for dyes used in switching and mode locking. Patent GDR, no. 225275, 24 Jul 1985. (RZRAB, 86/8Ye307).
156. Freyer, W.; Fink, F. (). Saturable absorber to obtain picosecond pulses at 1060 nm. Patent GDR, no. 225274, 24 Jul 1985. (RZRAB, 86/8Ye721).
157. Freyer, W.; Le Quoc Minh (). Passive optical switch for an iodine laser. Patent GDR, no. 225273, 24 Jul 1985. (RZRAB, 86/7Ye487).
158. Groznov, M.A.; Myl'nikov, V.S.; Sinikas, A.G.; Soms, L.N. (GOI). Liquid crystal light modulator using the S-effect with an organic polymer photoconductor. GOI. Trudy, no. 194, 69-73. (RZFZA, 86/8L673).
159. Heumann, E.; Schastak, S. (). Passive optical "valve" to decouple oscillators and amplifier stages in high-power laser amplifier systems. Patent GDR, no. 226112, 14 Aug 1985. (RZRAB, 86/8Ye704).
160. Jankiewicz, Z. (). Method and system for shaping laser pulses. Patent Poland, no. 128728, 30 Sep 1985. (RZRAB, 86/7Ye485).
161. Kir'yanov, A.V.; Korniyenko, L.S.; Kravtsov, N.V.; Naniy, O.Ye.; Pashinina, N.P.; Sidorov, V.A.; Susov, A.M.; Shelayev, A.N.; Yatsenko, Yu.P. (MGU). New methods for controlling the radiation of c-w solid state lasers by means of nonlinear optical effects. VMUFA, no. 1, 1986, 81-87. (RZFZA, 86/8L1001).
162. Korotkov, Yu.Ya.; Shternov, A.A. (). Optimizing the duration of lumination in photomodulators. Metody i ustroystva pervoy obrabotki signalov v radiotekhnicheskikh sistemakh. Gor'kiy, 1985, 109-112. (RZRAB, 86/8Ye304).
163. Kostov, M.K. (). Electrogyration modulator with centrosymmetric  $\text{Pb}(\text{sub}5)\text{GeO}(\text{sub}4)[\text{VO}(\text{sub}4)](\text{sub}2)$  and  $\text{Pb}(\text{sub}5)\text{SiO}(\text{sub}4)[\text{VO}(\text{sub}4)](\text{sub}2)$  crystals (in English). CRTED, no. 1, 1986, K4-K6. (RZFZA, 86/8L674).
164. Kotomtseva, L.A. (). Effect of the coherent properties of the medium on passive mode locking in lasers. VBSFA, no. 1, 1986, 81-86. (RZFZA, 86/8L1005).



165. Puzewicz, Z.; Czechowicz, R. (). Optimization of the resonator of a Q-switch solid state laser with a passive modulator, the final losses of which are proportional to the initial losses (in English). JTPHD, no. 2, 1985, 173-182. (RZFZA, 86/8L993).
166. Vaksman, V.M.; Gulyayev, Yu.V.; Mirgorodskiy, V.I. (IRE). Acoustooptic device to control optical radiation. OTIZD, no. 48, 1985, 797378. (RZRAB, 86/7Ye179).
167. Vladimirov, F.L.; Groznov, M.A.; Kornev, A.F.; Lyubimov, V.V.; Morichev, I.Ye.; Morozova, Ye.A.; Myl'nikov, V.S.; Orlov, S.Yu.; Pletneva, N.I.; Pokrovskiy, V.P.; Reshetnikova, T.O.; Soms, L.N. (GOI). Liquid crystal light modulators: devices for controlling the intensity distribution of laser radiation. GOI. Trudy, no. 194, 73-81. (RZFZA, 86/8L672).
168. Vladimirov, F.L.; Morichev, I.Ye.; Petrova, L.I.; Pletneva, N.I. (GOI). Electrooptic and time characteristics of field effects in thin layers of nematic liquid crystals. GOI. Trudy, no. 194, 1986, 64-69. (RZFZA, 86/8L132).

#### F. NONLINEAR OPTICS

##### 1. General Theory

169. Alaverdyan, R.B.; Arakelyan, S.M.; Kazaryan, R.A.; Kazaryan, V.R.; Kechiyants, A.M.; Chilingaryan, Yu.S. (YeGU). Light-stimulated orientation effects in a photosemiconductor nematic liquid crystal. ZTEFA, no. 8, 1986, 1617-1621.
170. Andreyev, V.A. (FIAN). Inverse problem method in equations of quantum optics. Part 1. Integrals of motion. Kvantovaya mekhanika i statisticheskiye metody. FIAN. Trudy, no. 173, 1986, 200-237.
171. Arakelyan, S.M.; Karayan, A.S.; Chilingaryan, Yu.S.; Egibyan, A.V. (). Light-stimulated bleaching of an optically inhomogeneous medium and optical bistability. OPSPA, vol. 61, no. 2, 1986, 368-374.
172. Arkhipkin, V.G.; Vysotin, A.L.; Im Tkhek-de; Podavalova, O.P.; Popov, A.K. (IFSOAN, KrGU). Resonant four-wave continuous wave frequency mixing in a sodium vapor. KVEKA, no. 7, 1986, 1352-1359.

173. Averbukh, B.B.; Ten, V.P. (). Two-level system in a field of ultrashort light pulses. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 36-39. (RZRAB, 86/8Ye22).
174. Avetisyan, Yu.A.; Zaytsev, A.I.; Malyshev, V.A. (). Theory of superradiance in polyatomic systems, allowing for resonant dipole-dipole interaction of atoms. OPSPA, v. 59, no. 5, 1985, 967-974.
175. Bayramov, B.Kh.; Voytenko, V.A.; Ipatova, I.P.; Subashiyev, A.V.; Toporov, V.V.; Yane, E. (). Scattering of light by free carriers in InP and Ga(x)In(1-x)P. FTVTA, no. 3, 1986, 754-761. (RZFZA, 86/7N424).
176. Bogolyubov, N.N.; Bashkirov, Ye.K.; Fam Le Kiyen; Shumovskiy, A.S. (OIYaI). Superradiant processes in two-level macroscopic systems in crystal. OIYaI. Soobshcheniye, no. R17-85-938, 1985, 10 p. (RZFZA, 86/7L850).
177. Bogolyubov, N.N.; Kuang Chan; Shumovskiy, A.S. (OIYaI). Amplification of compression of light in optical nonlinear systems. OIYaI. Soobshcheniye, no. R17-85-772, 1985, 4 p. (RZFZA, 86/7L862).
178. Bogolyubov, N.N.; Turayev, M.T.; Shumovskiy, A.S.; Yukalov, V.I. (OIYaI). Collective spontaneous emission in two-component two-level systems. OIYaI. Soobshcheniye, no. 14, 1986, 33-40. (RZFZA, 86/8L813).
179. Boyko, S.A.; Valakh, M.Ya.; Dykman, M.I.; Lisitsa, M.P.; Tarasov, G.G.; Shpak, A.M. (). Self-induced change in the polarization of resonance radiation in impurity cubic crystals. IANFA, no. 2, 1986, 286-289. (RZFZA, 86/7L1050).
180. Brodskiy, A.M. (). Formation of surface solitons in the electrodynamics of a metal/electrolyte boundary. ELKKA, no. 2, 1986, 270-273. (RZFZA, 86/7L1076).
181. Bryksin, V.V.; Korovin, L.I.; Kuz'min, Yu.I. (). Exact solution to the problem on the dynamics of forming photoinduced charges in photorefractive crystals. FTVTA, no. 1, 1986, 148-157. (RZFZA, 86/7L1045).
182. Chiplis, D.; Rimeyko, R. (VilGU). Variation in the intensity of light due to optical bistability in a Mach-Zehnder interferometer with a dielectric film. ZTEFA, no. 7, 1986, 1382-1384.

183. Dianov, Ye.M.; Ivanov, L.M.; Karasik, A.Ya.; Mamyshev, P.V.; Prokhorov, A.M. (IOF). Spectral filtering of phase-modulated laser radiation and shaping of frequency-tuned spectrally limited high-contrast light pulses. ZFPRA, vol. 44, no. 3, 1986, 121-124.
184. Gastev, S.V.; Sokolov, N.S.; Yassiyevich, I.N. (). Selective optical pumping of electrons and inter-valley scattering by shallow impurity centers in silicon crystals. IANFA, no. 2, 1986, 297-300. (RZFZA, 86/7N429).
185. Gayner, A.V.; Zabolotskiy, A.A.; Surdutovich, G.I. (IFPSOAN). Possibility of forming short rectangular light pulses in bistable optical systems. IFPSOAN. Preprint, no. 12, 1986, 9 p. (RZFZA, 86/8L848).
186. Golovchenko, Ye.A.; Kandidov, V.P. (). Statistics of light beams under nonlinear scattering by absorptive microinclusions. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 78-85. (RZRAB, 86/8Ye16).
187. Gusev, V.V.; Dubrovskiy, V.A.; Zotov, V.I.; Medvedev, B.A. (). Amplification of two-photon photoexcitation due to radiationless energy transfer. OPSPA, vol. 61, no. 2, 1986, 419-422.
188. Kalinichenko, M.I.; Trofimov, V.A. (). Nonlinear propagation of optical radiation in a chemically active medium. OPSPA, vol. 61, no. 1, 1986, 182-184.
189. Kalinov, V.S.; Petukh, O.M.; Smirnov, A.Ya. (). Bistability and hysteresis in ring gas lasers with competitive opposed waves. VBSFA, no. 1, 1986, 89-95. (RZFZA, 86/8L849).
190. Kosobukin, V.A. (FTI). Nonlocal theory of nonlinear optic phenomena. ZTEFA, no. 8, 1986, 1481-1488.
191. Kovalev, V.F.; Pustovalov, V.V.; Savchenko, M.A. (). Explosive build-up of an electromagnetic field at the boundary of a plasma during the interaction between surface waves and whispering gallery modes. IVYRA, no. 2, 1986, 139-144. (RZFZA, 86/7Zh181).
192. Kurayev, A.A.; Slepyan, G.Ya.; Slepyan, A.Ya. (MRI). Bistability of Vavilov-Cherenkov radiation in nonlinear media. PZTFD, no. 14, 1986, 862-866.

193. Lebedeva, V.V.; Sokolovskiy, R.I.; Pando, K.L. (). Correlation in the frequency spectrum of cascade transitions under perturbations in combining levels of a strong monochromatic field. OPSPA, v. 60, no. 3, 1986, 469-473.
194. Manakov, N.L.; Marmo, S.I.; Faynshteyn, A.G. (VGU). Nonlinear susceptibilities of atoms in a range of frequencies exceeding the ionization potential. ZETFA, vol. 91, no. 1, 1986, 51-64.
195. Mantsyzov, B.I.; Kuz'min, R.N. (MGU). Coherent interaction between light and a discrete periodic resonant medium. ZETFA, vol. 91, no. 1, 1986, 65-77.
196. Matulis, A. (IFPV). Exact solution of the quantum Liouville equation for nonlinear oscillators. LFSBA, no. 4, 1986, 391-396.
197. Mkrtchyan, V.Ye.; Chaltykyan, V.O. (). Effects of the passage of radiation over short distances and their relationship to elementary processes on an individual atom. DANAA, no. 4, 1985, 186-189. (RZFZA, 86/7L869).
198. Odulov, S.G. (). Strong optical nonlinearity in photorefractive crystals. IANFA, no. 4, 1986, 670-676. (RZFZA, 86/8L1018).
199. Pirogov, V.Yu. (LGU). Correlation properties of a field under superradiance. VINITI. Deposit, no. 2518-V, 9 Apr 1986, 6 p. (RZFZA, 86/8L814).
200. Przhibel'skiy, S.G. (). Trapping of a population under transient conditions. OPSPA, v. 59, no. 6, 1348-1349.
201. Rotaru, A.Kh. (IPFANM). Optical turbulence in a system of coherent excitons, photons and biexcitons. FTVTA, no. 8, 1986, 2492-2494.
202. Rozanov, N.N.; Khodova, G.V. (). Bistability in light-beam reflection from a nonlinear medium. OPSPA, vol. 61, no. 1, 1986, 198-201.
203. Sokolovskaya, A.I.; Chernega, N.V. (FIAN). Induced absorption and stimulated scattering of radiation focused in different parts within an active medium. KRSFA, no. 3, 1986, 6-8. (RZFZA, 86/8L1021).

204. Turayev, M.T.; Shumovskiy, A.S.; Yukalov, V.I. (OIYaI). Superradiance in two-component dipole systems. OIYaI. Soobshcheniye, no. R17-85-961, 1985, 15 p. (RZFZA, 86/7L849).
205. Ulybin, V.A.; Chebotayev, V.P. (). Two-photon absorption of ions in a two-dimensional closed trap. OPSPA, vol. 61, no. 2, 1986, 261-266.
206. Vasilyauskas, V.; Ivanauskas, F.; Stabinis, A. (). Summary approximation by fast Fourier transform to calculate three-frequency interactions of electromagnetic waves in nonlinear media. LMSBA, no. 1, 1986, 27-37. (RZFZA, 86/8Zh17).
207. Velikovich, A.L.; Golubev, G.P.; Luchinskiy, D.G. (VNIIMS). Dynamics of multistable transmission in GaSe crystals. PZTFD, no. 14, 1986, 879-885.
208. Volkov, S.N. (). Possibility of propagation of nonlinear waves in DNA. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 163-166. (RZFZA, 86/7I380).
209. V'yun, V.A.; Gayner, A.V.; Surdutovich, G.I.; Yakovkin, I.B. (IFPSOAN). Bistability of acoustoelectronic phenomena in unsteady regimes. PZTFD, no. 13, 1986, 799-802.
210. Yevseyev, I.V.; Tsikunov, V.N. (). Theory of stimulated photon echo in ytterbium vapor. OPSPA, v. 59, no. 6, 1985, 1372-1373.
211. Zabolotskiy, A.A. (IAESOAN). Soliton amplitude bistability in a ring cavity with nonlinear absorbing media. KVEKA, no. 8, 1986, 1682-1684.
212. Zinov'yev, P.V.; Malyukin, Yu.V.; Naboykin, Yu.V.; Rudenko, Ye.N.; Samartsev, V.V.; Silayeva, N.B. (). Temperature dependence of superradiance in pyrene-activated diphenyl crystals at a temperature range of 1.5 - 60 K. FNTED, no. 2, 1986, 208-210. (RZFZA, 86/7L1116).

## 2. Frequency Conversion

- 213. Aktsipetrov, O.A.; Baranova, I.M.; Il'inskiy, Yu.A. (MGU). Contribution of a surface to the generation of a reflected second harmonic for centrally-symmetric semiconductors. ZETFA, vol. 91, no. 1, 1986, 287-297.
- 214. Bredikhin, V.I.; Kuznetsov, S.P. (). Refractive-index dispersion in DKDP crystals by a harmonic-generation method. OPSPA, vol. 61, no. 1, 1986, 103-107.
- 215. Brudnyy, V.N.; Novikov, V.A.; Popova, Ye.A. (SFTI). Electrical and optical properties of e-beam-irradiated ZnGeP(sub2). IVUFA, no. 8, 1986, 122-130.
- 216. Markin, A.S.; Ryabenkov, V.I.; Tusnov, Yu.I. (MIREA). Forming of second harmonic subnanosecond pulses in uniaxial nonlinear crystals. VINITI. Deposit, no. 2900-V, 21 Apr 1986, 27 p. (RZFZA, 86/8L1029).
- 217. Matveyev, A.N.; Pirogova, I.Yu. (MGU). Subpicosecond pulse shortening under frequency doubling. VINITI. Deposit, no. 3437-V, 13 May 1986, 8 p. (RZRAB, 86/8Ye670).
- 218. Yen'shin, A.V. (NIIPMM). Parametric conversion of a light frequency into the ultraviolet region by diatomic gases. DANKA, vol. 289, no. 6, 1986, 1360-1362.

## 3. Parametric Processes

- 219. Belabayev, K.K.; Kiseleva, I.N.; Obukhovskiy, V.V.; Odulov, S.G.; Taratuta, R.A. (). New holographic-type parametric scattering in lithium tantalate crystals. FTVTA, no. 2, 1986, 575-578. (RZFZA, 86/7L1058).
- 220. Butylkin, V.S.; Shalyayev, M.F. (IRE). Frequency up-conversion in gas-filled multipass cells with reflection losses. KVEKA, no. 8, 1986, 1685-1688.
- 221. Drits, V.V. (). Difference schematics for calculating the parametric interaction of optical waves in nonlinear media. VBSFA, no. 1, 1986, 19-23. (RZFZA, 86/8L1027).
- 222. Grigor'yev, I.S.; Semerok, A.F.; Firsov, V.A.; Chankin, A.V. (IAE). Degenerate resonant parametric interaction in spatially separated light fields. KVEKA, no. 8, 1986, 1541-1542.

223. Korniyenko, N.Ye.; Malyy, V.I.; Ponezha, G.V.; Ponezha, Ye.A.; Dzyuban, N.V. (). Nonresonance parametric processes under stimulated Raman scattering in organic crystals. UFIZA, no. 3, 1986, 333-336. (RZFZA, 86/8L1060).

#### 4. Stimulated Scattering

##### a. Miscellaneous Scattering

224. Bel'dyugin, I.M.; Galushkin, M.G.; Rechkin, O.I. (). Theory of stimulated scattering of nonmonochromatic radiation. KVEKA, no. 7, 1986, 1381-1385.
225. Deryugin, A.A.; Likhanskiy, V.V.; Napartovich, A.P. (). Stimulated light scattering in unstable resonators. KVEKA, no. 8, 1986, 1711-1713.
226. Lemeshko, V.V.; Obykhovskiy, V.V. (KGU). Four-wave cross-scattering of light in LiNbO(sub3) crystals. PZTFD, no. 16, 1986, 961-966.
227. Ragul'skiy, V.V. (). Stimulated scattering of depolarized light. OPSPA, vol. 61, no. 2, 1986, 427-430.
228. Rozhdestvenskaya, N.B.; Smirnova, L.V. (LGU). Structural transitions in liquid benzene. ZFPRA, vol. 44, no. 3, 1986, 130-132.
229. Tychinskiy, V.P.; Pankov, V.L.; Daugel'-Dauge, A.G.; Karpun'kin, A.V. (MIREA). Detection of sub-Hertz fluctuations of anisotropy during the small-angle scattering of light. ZFPRA, vol. 44, no. 4, 1986, 197-200.
230. Yakimenko, I.P. (). Stimulated scattering processes in plasma-molecular systems. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya s uppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 443-447. (RZFZA, 86/7G30).

b. Raman

231. Berik, Ye.B.; Gakhovich, D.Ye.; Grabchikov, A.S.; Davydenko, V.A.; Mikhkel'soo, V.T.; Orlovich, V.A.; Yagmurov, V.Kh. (IFANB). Laser radiation frequency stimulated Raman scattering converter in compressed hydrogen with a low excitation threshold. KVEKA, no. 8, 1986, 1728-1730.
232. Bespalov, V.G.; Stasel'ko, D.I. (). Effect of stimulated Raman scattering on pumping-radiation coherence during saturation. OPSPA, vol. 61, no. 1, 1986, 153-158.
233. Bykov, A.M.; Volyar, A.V.; Kuchikyan, L.M. (). Dynamics of polarization of stimulated Raman scattering in capillary multimode lightguides. UFIZA, no. 3, 1986, 362-364. (RZFZA, 86/8L1073).
234. Dzhotyan, G.P.; Petrosyan, K.B.; Pokhsraryan, K.M. (NIIFKS). Noncollinear stimulated Raman scattering based on polaritons in a LiIO(sub3) crystal. KVEKA, no. 8, 1986, 1566-1571.
235. Gorobchenko, V.S.; Nagornaya, L.L.; Mnatsakanova, T.R.; Ogurtsova, L.A.; Pokrovskaya, F.S. (). Stimulated radiation and stimulated Raman scattering of crystals based on n-terphenyl. ZPSBA, vol. 45, no. 1, 1986, 155-158.
236. Karpukhin, S.N.; Stepanov, A.I. (). Stimulated emission from a cavity under stimulated Raman scattering in Ba[NO(sub3)](sub2), NaNO(sub3), and CaCO(sub3) crystals. KVEKA, no. 8, 1986, 1572-1577.
237. Korniyenko, N.Ye.; Malyy, V.I.; Ponezha, G.V. (). Generation of excited vibration states during stimulated Raman scattering and the polariton mechanism of relaxation in liquids. OPSPA, vol. 61, no. 1, 1986, 174-177.
238. Korniyenko, N.Ye.; Malyy, V.I.; Ponezha, G.V.; Ponezha, Ye.A.; Fedorchenko, A.M. (). Nature of the fine structure and anomalous broadening of stimulated Raman spectra in liquids. FZSSA, no. 14, 1986, 41-54. (RZFZA, 86/7I206).
239. Lebedev, A.N.; Martirosyan, G.V. (FIAN). Stimulated Raman scattering in a heavy-current e-beam. FIAN. Preprint, no. 74, 1986, 27 p. (RZFZA, 86/8G87).



240. Mel'chenko, S.V.; Panchenko, A.N.; Tarasenko, V.F. (). Stimulated Raman scattering transformation of ultraviolet radiation in compressed gases. OPSPA, vol. 61, no. 2, 1986, 303-307.
  241. Mel'chenko, S.V.; Panchenko, A.N.; Tarasenko, V.F. (ISE). Stimulated Raman scattering conversion of radiation from an electric-discharge XeCl laser. KVEKA, no. 7, 1986, 1496-1500.
  242. Nesterova, Z.V.; Aleksandrov, I.V.; Zhakhov, V.V.; Karpov, L.G. (). Stimulated Raman scattering in fiber lightguides of alloyed quartz glasses. FKSTD, no. 4, 1986, 443-447.
  243. Shapiro, V.Ye. (IFSOAN). Vortex Raman resonance. IFSOAN. Preprint, no. 369-F, 1986, 12 p. (RZFZA, 86/8L1052).
- c. Brillouin
244. Adkhamov, A.A. (). Mechanism of nonlinear phase advance in four electromagnetic waves interacting between themselves in a layer of a transparent plasma. VINITI. Deposit, no. 2169-V, 28 Mar 1986, 8 p. (RZFZA, 86/7G33).
  245. Adkhamov, A.A.; Gorbunov, L.M. (). Effect of stimulated Brillouin scattering on the reflected radiation spectrum in two-frequency pumping. VINITI. Deposit, no. 2168-V, 28 Mar 1986, 5 p. (RZFZA, 86/7L1088).
  246. Chorvatova, Z. (). Use of Brillouin light scattering in optoelectronics (in English). OPAPB, no. 2, 1985, 143-147. (RZFZA, 86/7L684).
  247. Keldysh, L.V.; Tikhodeyev, S.G. (FIAN, IOF). Transient Brillouin scattering of an intense polariton wave. ZETFA, vol. 91, no. 1, 1986, 78-85.
  248. Silin, V.P.; Tikhonchuk, V.T.; Chegotov, M.V. (). Satellite mode of double stimulated Brillouin scattering. FIPLD, no. 3, 1986, 350-361. (RZFZA, 86/7G31).
  249. Zozulya, A.A.; Silin, V.P.; Tikhonchuk, V.T. (). Double stimulated Brillouin scattering as a principle in the reflection of radiation. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 324-326. (RZFZA, 86/7L1087).

d. Rayleigh

250. Dolotov, L.Ye.; Zyuryukina, O.V.; Solov'yev, A.P.; Tsikin, B.G. (). Determination of the spatial energy distribution in a laser beam by Rayleigh scattering. KVEKA, no. 8, 1986, 1704-1706.

5. Self-focusing

251. Danileyko, Yu.K.; Milyayev, V.A.; Minayev, Yu.P.; Prokhorov, A.M.; Sidorin, A.V.; Shirkov, A.V. (IOF). Self-defocusing of converging beams: circular intensity waves at a focus. ZETFA, vol. 91, no. 1, 1986, 166-171.
252. Yerokhin, N.S.; Fadeyev, A.P. (). Two-dimensional self-focusing of wave beams in transition layers of an inhomogeneous medium. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 310-312. (RZFZA, 86/7L1110).
253. Zolot'ko, A.S.; Kitayeva, V.F. (FIAN). Polarization effects during orientation aberration self-focusing in nematic liquid crystals. ZETFA, vol. 91, no. 1, 1986, 131-139.

6. Acoustic Interaction

254. Akhmedzhanov, I.M.; Bozhevol'nyy, S.I. (YaPI). Frequency band width of the transmission of an integrated-optic correlator with time integration. ZTEFA, no. 8, 1986, 1654-1656.
255. Akopyan, R.S.; Alaverdyan, R.B.; Chilingaryan, Yu.S. (YeGU). Orienting action of light on liquid crystals near the threshold of instability in an acoustic wave field. PZTFD, no. 14, 1986, 858-862.
256. Aristov, Yu.V.; Rysakov, V.M. (). Experimental study on the process of three-dimensional light diffraction by sound under conditions of acoustic instability. PZTFD, no. 4, 1986, 215-219.
257. Avakyants, L.P.; Bondarenko, V.S.; Kiselev, D.F.; Molodtsov, V.V.; Chkalova, V.V.; Firsova, M.M. (). Elastic and elastooptic properties of  $\text{NaBi}[\text{MoO}(\text{sub}4)](\text{sub}2)$ . FTVTA, no. 2, 1986, 617-620. (RZFZA, 86/8Ye455).

258. Avanesyan, S.M.; Gusev, V.E.; Zhdanov, B.V.; Kuznetsov, V.I.; Telenkov, S.A. (MGU). Generation of surface acoustic waves by deformation and thermal mechanisms during optical action on silicon. AKZHA, no. 4, 1986, 562-564.
259. Bondarenko, V.S.; Byshevskiy, O.A.; Perelomova, N.V.; Chirkov, L.Ye. (). Extreme directions of anisotropic diffraction and collinear acoustooptic interaction. KRISA, no. 2, 1986, 333-336. (RZFZA, 86/8Ye451).
260. Brysev, A.P.; Strel'tsov, V.N. (IOF). Optoacoustic interaction and wavefront reversal of sound beams in piezosemiconductors. AKZHA, no. 4, 1986, 564-566.
261. Buda, M.; Jodlowski, L. (). Techonolgy and properties of coupling in acoustooptic modulators (in Polish). PITRA, no. 99-100, 1985, 76-82. (RZFZA, 86/8Pl65).
262. Burlak, G.N.; Grimal'skiy, V.V.; Taranenko, Yu.N. (KGU). Possibility of controlling the motion of acoustoelectromagnetic solitons. ZTEFA, no. 2, 1986, 424-426.
263. Deyev, V.N.; Pyatakov, P.A. (). Optical generation of sound in a photoconductive piezoelectric. PZTFD, no. 15, 1986, 928-932.
264. Kozhukharov, V.S.; Marinov, M.R.; Gugov, I.B. (). Glass for acoustooptic instruments. Author's certificate Bulgaria, no. 36375, 30 Apr 1984. (RZRAB, 86/8Ye605).
265. Nguyen Kuok An'; Nguyen Khong Shon; Shmelev, G.M. (). Anisotropic acoustoelectronic effects in semiconductors in a two-wave field. Opticheskiye svoystva poluprovodnikov i dielektrikov: Fizicheskiye nauki. Kishinev, Shtiintsa, 1986, 38-46. (RZFZA, 86/7N430).
266. Savel'yev, I.O.; Petrov, V.V. (IPMEN). Acoustooptic properties of  $Tl_{sub4}PbCl_{sub6}$  crystals. PZTFD, no. 13, 1986, 787-790.
267. Sobolewski, A.; Nowicki, R. (). Optoacoustic effect in methanol optically pumped by CO<sub>2</sub> laser (in English). OPAPB, no. 2, 1985, 149-155. (RZFZA, 86/7L1141).

268. Ushakov, N.M.; Zyuryukin, Yu.A.; Nikishin, Ye.L. (SGU). Efficiency of light diffraction by hypersound excited by multisection periodic waveguiding systems. IVYRA, no. 1, 1986, 124-126.
  269. Vorob'yev, V.V.; Gracheva, M.Ye.; Gurvich, A.S. (IFA). Acoustic tomography of pulsed laser beams. AKZHA, no. 4, 1986, 457-461.
  270. Zadorin, A.S.; Sharangovich, S.N. (TIASUR). Strong acoustooptical interaction in a field of a focused sound wave. IVYRA, no. 7, 1986, 798-808.
  271. Zverev, V.A.; Donskoy, D.M.; Sutin, A.M. (IPF). Parametric interaction of acoustic signals in a flat waveguide. DANKA, vol. 289, no. 5, 1986, 1111-1115.
- G. SPECTROSCOPY OF LASER MATERIALS
272. Aristov, A.V.; Yeremenko, A.S.; Nikolayev, A.B. (). Generated-radiation losses in rhodamine-6G solutions under quasi-longitudinal laser excitation. OPSPA, vol. 61, no. 2, 1986, 281-285.
  273. Ashurov, M.Kh.; Nasyrov, I.N.; Osiko, V.V.; Khabibullayev, P.K. (IYaFANUz). Ultraviolet absorption in GSGG:Cr(sup3+) crystals. DANKA, vol. 289, no. 2, 1986, 344-347.
  274. Fronts, K.; Mayorova, N.I.; Mishchurnyy, V.A.; Kuchinskiy, V.I.; Portnoy, Ye.L.; Smirnitskiy, V.B. (FTI). Refractive index of GaInAsP solid solutions at a lasing wavelength. PZTFD, no. 13, 1986, 827-831.
  275. Gorban', I.S.; Gumenyuk, A.F.; Degoda, V.Ya.; Kuchakova, T.A. (). Thermoluminescence in inhomogeneous light sum storage in YAG:Nd3+ crystals. UFIZA, no. 3, 1986, 370-372. (RZFZA, 86/8L519).
  276. Perlin, Yu.Ye.; Dumbravyanu, R.V.; Antipenko, B.M. (). Cooperative luminescence in activated crystals. Opticheskiye svoystva poluprovodnikov i dielektrikov: Fizicheskiye nauki. Kishinev, Shtiintsa, 1986, 113-119. (RZFZA, 86/7L465).
  277. Savost'yanov, V.A.; Przhevuskiy, A.K. (). Probability variance of radiative transitions of rare-earth elements in glasses based on various glass formers. FKSTD, no. 4, 1986, 474-476.

278. Tkachuk, A.M.; Klokishner, S.I.; Petrov, M.V. (). Inter-ion interaction in  $\text{SrF}(\text{sub}2)-2[\text{Y}(1-x-y)\text{Ho}(y)\text{Er}(x)]\text{F}(\text{sub}3)$  systems. Opticheskiye svoystva poluprovodnikov i dielektrikov: Fizicheskiye nauki. Kishinev, Shtiintsa, 1986, 103-113. (RZFZA, 86/7L481).
279. Voropay, Ye.S.; Lugovskiy, A.P.; Popechits, V.I.; Samtsov, M.P. (). Polarization spectra and nature of shortwave absorption bands in symmetric polymethine dyes. DBLRA, no. 3, 1986, 230-232. (RZFZA, 86/7L457).

#### H. ULTRASHORT PULSE GENERATION

280. Averin, V.I.; Dmitriyev, V.A.; Yefimov, S.P.; Kolesov, G.V.; Lebedev, V.B.; Maranichenko, N.I. (VNII OFI). Electrooptic photochronograph "Agat-SF3". PRTEA, no. 4, 1986, 223.
281. Borisov, V.I.; Lebedev, V.I. (IFANBMO). Commercially available He-Ne lasers as sources of stable subnanosecond pulses. KVEKA, no. 8, 1986, 1736-1738.
282. Kukk, P.L.; Feklistov, D.S.; Tamkivi, R.P. (IFANEst). Picosecond laser source for time-resolved measurements based on an excimer laser. KVEKA, no. 7, 1986, 1518-1521.
283. Val'shin, A.M.; Gordiyenko, V.M.; Krayushkin, S.V.; Platonenko, V.T.; Popov, V.K. (MGU). Oscillator of ultrashort radiation pulses utilizing yttrium aluminate and with a controlled resonator Q-factor. KVEKA, no. 8, 1986, 1713-1716.

#### J. CRYSTAL GROWING

284. Hermoneit, B.; Reiche, P.; Schalge, R.; Schultze, D. (). Method for fabricating single-domain lithium niobate single crystals. Patent GDR, no. 221764, 2 May 1985. (RZRAB, 86/8Ye190).

# K. THEORETICAL ASPECTS OF ADVANCED LASERS

285. Adishchev, Yu.N.; Vorob'yev, S.A.; Kalinin, B.N.; Pak, S.; Potylitsyn, A.P. (NIIYaFT). Study on the spectra of parametric (quasi-Cerenkov) radiation from ultrarelativistic electrons in diamond single crystal. ZETFA, v. 90, no. 3, 1986, 829-837.
286. Alekseyev, V.I.; Bessonov, Ye.G. (). Methods for generating circularly polarized electromagnetic radiation in charged-particle accelerators and accumulators. CVSISIZl, 6th, Novosibirsk, 4-6 Jul 1984. Trudy. IYafSOAN. Novosibirsk, 1984, 92-94. (RZFZA, 86/7V714).
287. Apollonov, V.V.; Kalachev, Yu.L.; Prokhorov, A.M.; Fedorov, M.V. (IOF). Acceleration of electrons under stimulated Compton scattering. ZFPRA, vol. 44, no. 2, 1986, 61-63.
288. Balakirev, V.A.; Miroshnichenko, V.I.; Paynberg, Ya.B. (KhFTI). Stimulated scattering of a plasma wave in a relativistic electron beam. FIPLD, no. 8, 1986, 983-991.
289. Barsukov, K.A.; Ryazantseva, N.V. (LETI). Complex Vavilov-Cherenkov effect in a waveguide. PZTFD, no. 13, 1986, 816-819.
290. Bayyer, V.N.; Katkov, V.M.; Strakhovenko, V.M. (). Radiation yield of high-energy electrons in thick crystals (in English). PSSBB, v. B133, no. 2, 1986, 583-592. (RZFZA, 86/8L69).
291. Bessonov, Ye.G. (FIAN). Theory of parametric free-electron lasers. KVEKA, no. 8, 1986, 1617-1628.
292. Bessonov, Ye.G. (FIAN). Space-time coherence of undulator radiation. FIAN. Preprint, no. 88, 1986, 11. (RZFZA, 86/7Zh634).
293. Buts, V.A.; Machekhin, Yu.P.; Ognivenko, V.V. (). Nonlinear dynamics of particle motion in free electron lasers. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 286-288. (RZFZA, 86/7L894).

294. Didenko, A.N.; Kozhevnikov, A.V.; Nikitin, M.M.; Timchenko, N.A. (). Current state of work on using synchrotron radiation at the Sirius synchrotron in Tomsk. CVSISIZl, 6th, Novosibirsk, 4-6 Jul 1984. Trudy. IYaFSOAN. Novosibirsk, 1984, 43-48. (RZFZA, 86/7V705).
295. Kholomay, B.V. (). Stimulated emission from relativistic electrons in magnetic undulators. IVUFA, no. 12, 1985, 45-49. (RZFZA, 86/7V701).
296. Kokhman'ski, S.; Kulish, V. (). Parametric resonance interaction between electrons and intense electromagnetic wave fields in the presence of a longitudinal magnetic field (in Russian). ATPLB, v. A68, no. 5, 1985, 725-739. (RZFZA, 86/7Zh650).
297. Pitatelev, M.M. (IAE). Self-modulation of an e-beam with a finite emittance in oscillating wave and magnetic fields of a spiral undulator. IAE. Preprint, no. 4232/1, 1985, 9 p. (RZFZA, 86/7L896).
298. Ponomarev, I.V.; Khapayev, A.M. (MGU). Theory of free electron lasers. IVUFA, no. 7, 1986, 83-87.
299. Vinokurov, N.A.; Voblyy, P.D.; Korniyukhin, G.A.; Kulipanov, G.N.; Litvinenko, V.N. (IYaFSOAN). Design of permanent-magnet undulators developed at the Institute of Nuclear Physics, Siberian Branch Academy of Sciences USSR, Novosibirsk. CVSISIZl, 6th, Novosibirsk, 4-6 Jul 1984. Trudy. IYaFSOAN. Novosibirsk, 1984, 83-85. (RZFZA, 86/7V715).
300. Yudin, G.L. (). Collective inelastic stimulated braking effect. ZTEFA, no. 2, 1986, 255-262.
301. Zaretskiy, D.F.; Nersesov, E.A.; Oganessian, K.B.; Fedorov, M.V. (IOF). Quantum theory of amplification in a free electron laser in a transverse gradient field. IOF. Preprint, no. 53, 1986, 57 p. (RZFZA, 86/7L883).

L. GENERAL LASER THEORY

302. Alipiyeva, Ye.A.; Grigor'yeva, V.N.; Karavasilev, P.R.; Todorov, G.Ts. (). Optomagnetic effects in spontaneous emission from cascade lasers. Bolgarskiy fizicheskiy zhurnal, no. 6, 1985, 615-622. (RZFZA, 86/7L899).
303. Birman, A.Ya.; Naumov, P.B.; Savushkin, A.F.; Tropkin, Ye.N. (). Analysis of the dynamic frequency characteristic of a ring laser using the Floquet theory. KVEKA, no. 8, 1986, 1638-1644.
304. Brazovskiy, V.Ye.; Brazovskaya, N.V. (API). Pulse shortening in a nonlinear amplifier. KVEKA, no. 7, 1986, 1401-1408.
305. Chuyev, Yu. (). Successes of Soviet science. TVOOB, no. 2, 1986, 4-5.
306. Datsyuk, V.V.; Izmaylov, I.A.; Kochelap, V.A. (IPANUK). Effects of increasing the luminescence intensity of metastable atoms and molecules in dispersed media. UFIZA, no. 5, 1986, 655-661.
307. Ginzburg, I.F.; Kotkin, G.L.; Polityko, S.I. (). Possibility of observing and using nonlinear quantum electrodynamic effects from collisions between high-energy electrons and dense clusters of laser photons. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 17-25. (RZRAB, 86/8Ye37).
308. Karthe, W.; Schubert, D.; Buettner, E.; Kempe, N.; Orzegowski, H.; Thiede, G. (). Folded laser. Patent GDR, no. 227564, 18 Sep 1985. (RZRAB, 86/8Ye189).
309. Korotkov, N.N.; Krupkin, V.Kh.; Levit, A.L.; Ovchinnikov, V.M. (GOI). Numerical modeling of Q-switched ring and linear lasers. OPMPA, no. 3, 1986, 1-3. (RZRAB, 86/8Ye32).
310. Kovalev, V.I.; Suvorov, M.B.; Fayzullov, F.S. (FIAN). Energy characteristics of a two-way CO2 amplifier. KVEKA, no. 8, 1986, 1589-1594.
311. Kraftmakher, A.Ya.; Nikulin, N.G.; Smirnov, B.M. (ITF). Calculating the parameters of a shortwave laser using a neon-like silicon ion transition. ITF. Preprint, no. 135, 1985, 18 p. (RZRAB, 86/8Ye33).



312. Lyubar', N.N. (NIIMatV). Effect of the parameters of the amplifier and duration and polarization of the incident signal on the total energy of the amplified radiation. VINITI. Deposit, no. 2843-V, 18 Apr 1986, 56-62. (RZFZA, 86/8L860).
313. Lyubar', N.N.; Chekalinskaya, Yu.I. (NIIMatV). Effect of the parameters of the amplifier on the duration of the amplified radiation. VINITI. Deposit, no. 2843-V, 18 Apr 1986, 63-68. (RZFZA, 86/8L861).
314. Paskal', I.Yu.; Poyzner, B.N. (). Combination of actual and numerical experiments [on computer modeling of solid state lasers] in a higher educational laboratory course. VINITI. Deposit no. 1480-86, 5 Mar 1986. (IVUFA, no. 7, 1986, 124).
315. Prokhorov, A.M. (biographical subject) (). Aleksandr Mikhaylovich Prokhorov on his seventieth birthday. FKOMA, no. 4, 1986, 3.
316. Prokhorov, A.M. (biographical subject) (). Aleksandr Mikhaylovich Prokhorov on his seventieth birthday. ZPSBA, vol. 45, no. 1, 1986, 164-166.
317. Prokhorov, A.M. (biographical subject) (). Aleksandr Mikhaylovich Prokhorov on his seventieth birthday. KVEKA, no. 7, 1986, 1535-1536.
318. Zaretskiy, D.F.; Malov, Yu.A. (). Quantum modulation of an electron current in a field of a laser wave. ZTEFA, no. 7, 1986, 1256-1261.

## II. LASER APPLICATIONS

### A. BIOLOGICAL EFFECTS

319. Baumruk, V.; Kamalov, V.F.; Koroteyev, N.I.; Toleutayev, B.N. (MGU). Luminescence of adenine and cytosine crystals under two-photon excitation. DANKA, vol. 289, no. 6, 1986, 1497-1500.
320. Domidov, B.S.; Dobkin, V.G.; Ovanov, V.A.; et al. (). Using CO<sub>2</sub> lasers in surgical treatment of patients with chronic postoperative empyema of the pleural cavity. Problemy tuberkuleza, no. 1, 1986, 35-38. (LZSTA, 30/86, 110385).
321. Dutu, D.C.A.; Dumitras, D.C.; Danaila, L. (). The Bilas-10 microsurgical CO<sub>2</sub> laser scalpel and its applications in neurosurgery (in English). RRPQA, no. 10, 1985, 863-876. (RZRAB, 86/8Ye950).
322. Dzhalilashvili, O.A.; Baranov, I.Ya. (LMI). Enhancing the effect of laser action in nonpigmented secondary cataracts. VEOFA, no. 4, 1986, 15-17.
323. Godik, V.I.; Timpmann, K.E.; Freyberg, A.M.; Borisov, A.Yu.; Rebane, K.K. (IFANEst, MGU). Excitation energy transfer between different pigment-protein complexes and reaction centers in intact membranes of purple bacterium *Rhodospseudomonas sphaeroides*. DANKA, vol. 289, no. 3, 1986, 714-717.
324. Konarski, S. (). Safety in using laser equipment. Part 1. Emission and absorption mechanism of optical radiation (in Polish). Automatyka kolejowa, no. 1, 1986, 6-10. (RZRAB, 86/8Ye10).
325. Kopriva, M.; Janku, V. (). Safety in working with lasers (in Czech). JMKOA, no. 11, 1985, 299-302. (RZRAB, 86/7Ye9).
326. Maksimova, I.L.; Tuchin, V.V.; Shubochkin, L.P. (). Propagation of light in anisotropic biological specimens. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 91-96. (RZRAB, 86/8Ye938).
327. Priymak, A.A.; Shesterina, M.V.; Minitser, I.I.; et al. (). Action of laser radiation on ciliary cells of the mucous membrane of the trachea and bronchi. Problemy tuberkuleza, no. 1, 1986, 57-59. (LZSTA, 30/86, 110295).

328. Pustovalov, V.K.; Khorunzhiy, I.A. (BPI). Selective interaction between short laser pulses and pigmented biotissues taking into consideration their granular structure. KVEKA, no. 7, 1986, 1461-1466.
329. Serov, V.N.; Kozhin, A.A.; Polyakov, V.V. (RNIIAP). Laser therapy in gynecological endocrinology. SOMEA, no. 7, 1986, 53-56.
330. Shekhter, A.B.; Gostishchev, V.K.; Nikolayev, A.V.; et al. (). Treatment of festering wounds by He-Cd laser. SOMEA, no. 2, 1986, 110-115. (LZSTA, 36/86, 132475).
331. Yakobi, V. (IEMEZh). Birds versus aircraft. SCUSD, no. 4, 1986, 110-118.

#### B. COMMUNICATIONS SYSTEMS

332. Abdullayev, S.S.; Akhmadzhanov, T.; Mirzayev, A.T. (). Study on the time correlation function of laser radiation passing through multimode optical fibers. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 56-61. (RZRAB, 86/8Ye24).
333. Acimovic-Raspopovic, V.; Lazovic, S. (). Design of point-to-point optical communications (in Serbo-Croatian). TLKMA, no. 3-4, 1985, 23-29. (RZRAB, 86/8Ye501).
334. Adamchuk, V.V.; Shangina, L.I.; Shandarov, V.M. (). Study on methods for coupling injection heterolasers with diffuse planar optical waveguides. IVUZB, no. 3, 1986, 48-53. (RZFZA, 86/7L1173).
335. Al'tshuler, G.B.; Karasev, V.V.; Kozlov, S.A.; Murina, T.A.; Rozanov, N.N. (). Elliptically polarized light waves in a nonlinear single-mode fiber. OPSPA, vol. 61, no. 2, 1986, 359-367.
336. Andreyev, V.M.; Yeskin, K.F.; Glukhova, Ye.Ye. (). Propagation of radiation along a converging optical waveguide. OPSPA, vol. 61, no. 2, 1986, 432-434.
337. Andrushko, L.M.; Naumenko, K.P. (). Synthesis of dielectric lightguides. SVETA, no. 5, 1986, 15-16. (RZRAB, 86/8Ye358).
338. Avdoshin, Ye.S.; Kuznetsov, N.A. (). Welding of optical waveguides. PRTEA, no. 4, 1986, 183-184.

339. Baars, G.; Forbrig, B. (). Device for input of light into lightguides. Patent GDR, no. 227263, 11 Sep 1985. (RZRAB, 86/7Ye282).
340. Baebler, R. (). Optimization of lightguide coupling cable nets. NACHA, no. 2, 1986, 57-58,63. (RZRAB, 86/7Ye253).
341. Baklunov, Yu.A.; Ovvyan, P.P. (). Method for measuring the effective value of the refractive index of lightguides. OTIZD, no. 45, 1985, 1196740. (RZRAB, 86/7Ye398).
342. Balagurov, A.Ya; Morozov, V.N.; Putilin, A.N.; Skobelkin, V.I. (FIAN). Dual-beam conditions of radiation input in a planar waveguide. ZTEFA, no. 7, 1986, 1406-1407.
343. Barulin, V.N. (). Device for modeling communications systems. OTIZD, no. 45, 1985, 1196887. (RZRAB, 86/8Ye484).
344. Belov, A.V.; Dianov, Ye.M.; Kurkov, A.S. (IOF). Measurement of chromatic dispersion in single-mode fiber-optic waveguides by the interferometric method. KVEKA, no. 8, 1986, 1680-1682.
345. Belovolov, M.I.; Kebedzhiyev, A.G.; Kuznetsov, A.V. (). Highly directional low-loss V-type fiberoptic couplers for duplex fiberoptic communication lines. EKVZA, no. 2, 1986, 35-39. (RZRAB, 86/8Ye414).
346. Bluschke, A. (Blushke, A.); Yemin, V.I. (). Effect of low passband limitation in photodetectors on noise immunity in lightguide communications systems. RATEA, no. 4, 1986, 88-89. (RZRAB, 86/8Ye656).
347. Bodi, S. (). Optical communications (in Hungarian). FISZA, no. 3, 1985, 104-107. (RZFZA, 86/8L657).
348. Bozhevol'nyy, S.I.; Chernykh, V.A. (IOF). Distribution of an electrostatic field, stimulated during nonlocal interaction of dual-collinear light waves. ZTEFA, no. 7, 1986, 1391-1393.
349. Butta, V.I.; Vasilishin, V.L.; Gvozdikov, V.S.; Dovgan', A.P.; Drobot, M.I.; Korniyenko, G.P.; Sen'ko, I.M.; Ektov, A.I. (). Laser videodisk player. TKTEA, no. 7, 1986, 23-27.

350. Bykov, A.M.; Volkov, I.S.; Volyar, A.V.; Kuchikyan, L.M.; Mesh, M.Ya.; Shlifer, A.L. (). Polarization characteristics of the radiation of multimode waveguides. OPSPA, vol. 61, no. 1, 1986, 190-191.
351. Chmel', A.Ye.; Kharshak, A.A. (). Determination of alloying additive distributions in a preform cross-section for a quartz optical waveguide. ZPSBA, vol. 45, no. 1, 1986, 111-114.
352. Components of fiberoptic transmission systems. Gosstandart. State standard USSR, no. 26793-85. (RZRAB, 86/7Ye408).
353. Cvijetic, M. (). Two-mode optical fibers for operation at a second window of the transmission spectrum (in Serbo-Croatian). Naucno-tehnicki preglad Vojnotehnicki institut, no. 10, 1985, 50-54. (RZFZA, 86/7L63).
354. Czernow, A.; Hermanowski, W. (). Method and device for transmitting binary signals over lightguide channels. Patent Poland, no. 130634, 30 Nov 1985. (RZRAB, 86/7Ye364).
355. Danilin, B.S. (). Integrated optoelectronics. Current status and prospects for development. Itogi nauki i tekhnika. Seriya elektronika, no. 18, 1986, 89-132.
356. Demchenkov, V.P.; Deryugin, L.N.; Chekan, A.V. (UDN). Method and system for transmitting and receiving images over fiberoptic communication lines. OTIZD, no. 46, 1985, 1198765. (RZRAB, 86/7Ye313).
357. Dement'yev, D.A.; Svet, V.D. (AKIN). Coherent optical processing of signals represented in binary code. IVYRA, no. 7, 1986, 793-797.
358. Derguzov, V.I. (). Singularities in the continuous spectrum of two-dimensional periodic lightguides. PMAZB, no. 10, 1986, 116-123. (RZFZA, 86/8L55).
359. Dianov, Ye.M.; Nikonova, Z.S.; Serkin, V.N. (IOF). Effect of frequency modulation on the interaction of pulses in fiber optic waveguides. KVEKA, no. 8, 1986, 1740-1743.
360. Dobretsov, A.V.; Semenov, V.N.; Sergeyev, V.P.; Skvortsov, L.I.; Repin, V.N. (). Fiber lightguide coupler. OTIZD, no. 1, 1986, 1203458. (RZRAB, 86/8Ye403).

361. Dudko, G.D.; Musiyachenko, V.D.; Shevelevich, R.S.; Gut'ko, A.D. (VNIISPV). Differential thermographic study on rare-earth ultraphosphate crystals and glasses [for fiber lightguides]. FKSTD, no. 4, 1986, 448-451.
362. Gan'shin, V.A.; Ivanov, V.Sh.; Korkishko, Yu.N.; Petrova, V.Z. (MIET). Some laws governing the flow of ion exchange in lithium niobate crystals. ZTEFA, no. 7, 1986, 1354-1362.
363. Goepel, K.; Haertig, Th.; Hofmann, D. (). Optical coupler. Patent GDR, no. 227264, 11 Sep 1985. (RZRAB, 86/7Ye362).
364. Goepel, K.; Michailoff, M.; Foerster, G.; Haertig, Th. (). Bidirectional optical coupler. Patent GDR, no. 227262, 11 Sep 1985. (RZRAB, 86/7Ye363).
365. Goncharenko, A.M.; Karpenko, V.A.; Mogilevich, V.N.; Sotskiy, A.B. (). Methods for approximate separation of variables in the theory of weakly inhomogeneous optical waveguides. ZPSBA, vol. 45, no. 1, 1986, 7-16.
366. Gudoshnikov, S.A.; Logginov, A.S.; Senatorov, K.Ya.; Terletskiy, B.Yu. (). Pulse-code sequence generator for fiberoptic communication lines up to 160 megahertz. IVUZB, no. 3, 1986, 96-97. (RZRAB, 86/8Ye690).
367. Gusev, V.A. (FTI). Study on the parameters of planar diffuse optical waveguides in glass. FTI. Preprint, no. 991, 1986, 15 p. (RZFZA, 86/7Zh414).
368. Harmer, A.L. (). Fiberoptic sensors (in Czech). CKCFA, v. A36, no. 1, 1986, 1-34. (RZFZA, 86/8L716).
369. Irlin, A.V.; Gvozdikov, V.S.; Tsukanov, V.G.; Shribak, M.I. (). Device for beam positioning in optical reproduction of information. OTIZD, no. 1, 1986, 1203583. (RZRAB, 86/7Ye574).
370. Ivanov, S.V.; Mikhalevskiy, V.S. (). Light transmission in the bent part of a lightguide submerged in a liquid. ISTVA, no. 4, 1985, 56-57. (RZFZA, 86/7L66).
371. Karasek, M.; Kalibera, J. (). Calculating the transmission characteristics of fiber lightguides. Comparison of four numerical methods (in Czech). ELKCA, no. 1, 1986, 16-30. (RZFZA, 86/7Zh422).

372. Karpov, V.P.; Kostarev, G.I.; Bordzilovskaya, G.I.  
( ). Optical switch [for fiber lightguide communications]. OTIZD, no. 3, 1986, 1206743.  
(RZRAB, 86/8Ye402).
373. Khotyaintsev, S.N. ( ). Measurement of the optical characteristics of fiber waveguides and equipment requirements. IZTEA, no. 8, 1986, 29-32.
374. Kiewel, J. ( ). Measurement of lightguides (in Polish). Automatyka kolejowa, no. 9, 1985, 211-215.  
(RZRAB, 86/8Ye614).
375. Kizevetter, D.V.; Malyugin, V.I. (LPI). Effect of the surface roughness of a lightguide endface on the efficiency of input of electromagnetic radiation. ZTEFA, no. 1, 1986, 207-210.
376. Komitov, L.K.; Suynov, S.Kh. ( ). Multichannel fiberoptic switch. Author's certificate Bulgaria, no. 36597, 28 Dec 1984. (RZRAB, 86/8Ye426).
377. Kress, D. ( ). Elementary system-theoretical modeling of dispersion in lightguides. NACHA, no. 2, 1986, 44-45. (RZRAB, 86/7Ye206).
378. Kroemer, N.; Flach, S. ( ). Binary error measuring instrument to study short-distance lightguide transmission systems. RFELB, no. 2, 1986, 107-109.  
(RZRAB, 86/7Ye352).
379. Kul'chin, Yu.N.; Obukh, V.F. (DalPI). Effect of an aperture diaphragm on the signal-to-noise ratio in a single-fiber interferometric sensor. KVEKA, no. 8, 1986, 1675-1679.
380. Langbein, U.; Lederer, F.; Ponath, H.E.; Tutschel, U. ( ). Device for obtaining optically switched bistable and multistable optical pulse intensities in waveguides or fiber. Patent GDR no. 224685, 10 Jul 1985. (RZRAB, 86/7Ye393).
381. Makarchenko, O.N.; Shmal'ko, A.V. (DGU). Waveguide board for optical integrated circuits. OTIZD, no. 3, 1986, 1206985. (RZRAB, 86/8Ye444).
382. Malov, V.B.; Turovtsev, A.V.; Iogansen, L.V. (VZITLP). Theory of prismatic coupling with a cubic-nonlinear optical waveguide. ZTEFA, no. 8, 1986, 1500-1507.

383. Malykhin, K.V. (). Eigenfunctions of the continuous spectrum of lightguides with a periodic boundary. PMAZB, no. 10, 1986, 154-160. (RZFZA, 86/8L54).
384. Martynova, T.A.; Cherenkov, G.A. (). Effect of technological defects on losses in fiberoptic cables. EKVZA, no. 2, 1986, 43-45. (RZRAB, 86/8Ye382).
385. Mayyer, A.A. (IOF). Radiation switching in tunnel-coupled optical waveguides by weak radiation at a different frequency. KVEKA, no. 7, 1986, 1360-1368.
386. Mayyer, A.A. (IOF). Possibility of the practical application of the self-switching effect of radiation in coupled waveguides to amplify the useful modulation of a signal. IOF. Preprint, no. 334, 1985, 20 p. (RZFZA, 86/7Zh418).
387. Micsinai, T.; Nagy, J. (). Free-space optical communications in ground telecommunications (in Hungarian). Posta, no. 10, 1985, 3-5. (RZRAB, 86/8Ye776).
388. Mikhaylova, E.; Bozadzhiev, B. (). Practical optical cable television systems (in Bulgarian). Sb. nauch. tr. radioelektron. i suobsht. tekhn., no. 2, 1985, 89-93. (RZRAB, 86/8Ye550).
389. Nikiforova, G.L. (). Monochromatic high-resolution optical systems. IVUBA, no. 4, 1986, 85-88. (RZRAB, 86/8Ye807).
390. Pankov, D.T.; Angelova, M.K. (). Signal transducer. Author's certificate Bulgaria, no. 36622, 28 Dec 1984. (RZRAB, 86/8Ye573).
391. Pankov, D.T.; Angelova, M.K. (). Signal transducer. Author's certificate Bulgaria, no. 36623, 28 Dec 1984. (RZRAB, 86/8Ye574).
392. Patlakh, A.L. (). Bent fiber lightguides. SVETA, no. 5, 1986, 13-14. (RZRAB, 86/8Ye345).
393. Petrun'kin, V.Yu.; Selishchev, A.V.; Sysuyev, V.M.; Shcherbakov, A.S. (LPI). Soliton regime of the propagation of optical pulses in single mode optical fiber waveguides and questions on its experimental realization. PZTFD, no. 16, 1986, 988-991.
394. Pruchnik, H.; Klein, G.; Fritzsche, H.; Wolf, U.; Kuhl, H.D. (). Adjustable optoelectronic coupler for lightguide information transmission. Patent GDR, no. 228366, 9 Oct 1985. (RZRAB, 86/8Ye577).



395. Radev, P.; Stoyanov, G. (). Current status and trends in the development of linear coding in digital communications systems with optical cables. Sooruzheniye tsifrovyykh sistem svyazi. Mezhdunarodny simpozium, Varna, 23-25 Nov 1983. Sbornik dokladov. Sofia, 1984, 65/17-71/17. (RZRAB, 86/7Ye310).
396. Renschen, C. (). Method to control variation in light intensity. Patent GDR, no. 227597, 18 Sep 1985. (RZRAB, 86/7Ye489).
397. Rothe, A.; Anders, U. (). Device for automatic determination of the numerical aperture of lightguides. Patent GDR, no. 226650, 28 Aug 1985. (RZRAB, 86/7Ye225).
398. Sattarov, D.K. (reviewer of book); Andrushko, I.I.; Grodnev, I.I.; Panfilov, I.P. (authors of reviewed book). (GOI). First textbook on fiberoptic communication lines. Review of book: Volokonno-opticheskiye linii svyazi (Fiber optic communication lines), Moskva, Radio i svyaz', 1985. OPMPA, no. 8, 1986, 59-60.
399. Seifert, O.; Spangenberg, P. (). Method for controlling and measuring the detection quality of optical detection circuits. Patent GDR, no. 228134, 2 Oct 1985. (RZRAB, 86/7Ye460).
400. Semenov, A.B. (). Nonlinear signal distortions in fiberoptic communication lines. EKVZA, no. 2, 1986, 46-48. (RZRAB, 86/8Ye507).
401. Sharafutdinov, R.M. (). Noise immunity in a regenerator for a transmission system with spectral separation of optical channels. EKVZA, no. 2, 1986, 48-50. (RZRAB, 86/8Ye448).
402. Shribak, M.I. (GOI). Polarized separation of direct and reverse beams during read-out of reflectional data carriers. OPMPA, no. 7, 1986, 15-17.
403. Shribak, M.I.; Butta, V.I. (). Device for reproduction of information from a disk optical carrier. OTIZD, no. 9, 1986, 1216798. (RZRAB, 86/8Ye803).
404. Shribak, M.I.; Shchamova, N.N. (). Device to measure birefringence of reflectional optical information carriers. OTIZD, no. 5, 1986, 1210137. (RZRAB, 86/8Ye809).

405. Sklyarov, O.K. (). Fiberoptic delay lines. OTIZD, no. 2, 1986, 1205095. (RZRAB, 86/8Ye564).
406. Stankiewicz, S. (). Lightguide coupling technology (in Polish). Automatyka kolejowa, no. 10-11, 1985, 221-227. (RZRAB, 86/8Ye398).
407. Stankiewicz, S. (). Transmission of information over lightguide channels (in Polish). Automatyka kolejowa, no. 9, 1985, 201-210. (RZRAB, 86/8Ye482).
408. Stankiewicz, S. (). Lightguide transmission systems in telecommunication nets (in Polish). Automatyka kolejowa, no. 12, 1985, 249-256. (RZRAB, 86/8Ye498).
409. Stankiewicz, S. (). Use of lightguides in railroading (in Polish). Automatyka kolejowa, no. 2, 1986, 31-39. (RZRAB, 86/8Ye554).
410. Uryadov, V.N.; Mar'yenkov, A.A.; Sinkevich, V.I. (MRI). Instrument for measuring the differential parameters of optical cables. PRTEA, no. 2, 1986, 246.
411. Valyayev, A.B.; Krivosheynov, S.G.; Sisakyan, I.N. (IOF). Excitation of multimode graded-index waveguides with a parabolic refractive index profile. IOF. Preprint, no. 124, 1985, 53 p. (RZFZA, 86/7Zh416).
412. Vasil'yev, V.V.; Ziling, K.K.; Tishkovskaya, L.V. (IFPSOAN). Use of generalized parameters to describe dispersion characteristics of channel waveguides. KVEKA, no. 7, 1986, 1369-1375.
413. Vernik, S.M. (). Methods for bunching optical fibers in fiberoptic communication lines. EKVZA, no. 2, 1986, 39-42. (RZRAB, 86/8Ye506).
414. Veyko, V.P.; Kostyuk, G.K.; Meshkovskiy, I.K.; Chuyko, V.A.; Yakovlev, Ye.B. (LITMO). Microoptical elements based on local modification of porous glass structure. KVEKA, no. 8, 1986, 1693-1696.
415. Vlasenko, O.A.; Shcherbakov, Ye.A. (). Device for coupling fiber lightguides to radiators. OTIZD, no. 1, 1986, 1203459. (RZRAB, 86/8Ye572).
416. Volkov, Yu.A.; Volodin, Ye.B.; Mishin, Yu.N. (). Wideband analog fiberoptic analytical communication lines for physics experiments. Elektronika v eksperimental'nom fizike. Moskva, 1985, 38-41. (RZRAB, 86/8Ye566).

417. Vorob'yev, N.S.; Grudinin, A.B.; Dianov, Ye.M.; Prokhorov, A.M.; Khaydarov, D.V.; Khrushchev, I.Yu.; Shchelev, M.Ya. (IOF). Amplification of light during the nonlinear interaction of opposing waves in a single-mode fiber waveguide. ZFPRA, vol. 44, no. 1, 1986, 15-18.
418. Vysloukh, V.A.; Cherednik, I.V. (MGU). Modeling of the self-action of ultrashort pulses in optical fiber waveguides. DANKA, vol. 289, no. 2, 1986, 336-340.
419. Warwas, K.; Stauske, M. (). Splice coupler for lightguides. Patent GDR, no. 228654, 16 Oct 1985. (RZRAB, 86/8Ye410).
420. Westphal, K.D.; Sekowski, B.; Schulz, W.; Steckmann, D. (). Carrier and lightguide device in the housing of a laser module. Patent GDR, no. 224687, 10 Jul 1985. (RZRAB, 86/7Ye303).
421. Yelisseyev, P.G.; Fam Van Khoy (FIAN). Using GaAlAs/GaAs injection lasers to record digital information on a fixing medium. FIAN. Preprint, no. 80, 1986, 33 p. (RZFZA, 86/8L1142).
422. Zalogin, A.N.; Kozel, S.M.; Listvin, V.N.; Shatalin, S.V. (MFTI). Determination of cut-off wavelength in a single mode optical waveguide. PZTFD, no. 13, 1986, 780-783.
423. Zalogin, A.N.; Kozel, S.M.; Listvin, V.N. (). Propagation of nonmonochromatic radiation in anisotropic single-mode fiber lightguides. IVYRA, no. 2, 1986, 243-245. (RZFZA, 86/7Zh415).

#### C. BEAM PROPAGATION

##### 1. Theory

424. Barkovskiy, L.M.; Fedorov, F.I.; Borzdov, G.N. (). Frequency operator of plane waves in dispersive anisotropic media. ZPSBA, v. 44, no. 4, 1986, 639-646.
425. Batygin, V.V. (). Quantum statistical properties of macroscopic electromagnetic fields in resonant gaseous media. Problemy kvantovoy metrologii. CVSKMFFK, 1st, Leningrad, Dec 1982. Materialy. Leningrad, Energoatomizdat, 1985, 34-41. (RZFZA, 86/7L846).
426. Belen'kiy, M.S.; Lukin, I.P.; Mironov, V.L. (). Methods for probing the characteristics of refraction channels. OPSPA, v. 60, no. 2, 1986, 388-393.

427. Bol'shov, L.A.; Kirichenko, T.K.; Likhanskiy, V.V.; Persiantsev, M.I. (). Propagation of simltons (multifrequency pulses) in multilevel resonance media. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev, Naukova dumka, 1985, 147-152. (RZFZA, 86/7L1104).
428. Deryugina, A.I.; Deryugin, I.A.; Kurashov, V.N. (). Maximum directivity of partially coherent "white" radiation sources. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 10-16. (RZRAB, 86/8Ye21).
429. Domanski, A.; Kosicka, J. (). Study on changes in the polarization state of light diffracted by a conducting wedge (in Polish). Prace Instytutu fizyki PWarsz., no. 29-30, 1985, 217-229. (RZFZA, 86/8L13).
430. Galynskiy, M.V.; Fedorov, F.I. (). Transformation of the beam tensor during the interaction between light and a medium. ZPSBA, v. 44, no. 2, 1986, 288-292.
431. Golubtsov, A.A.; Pilipetskiy, N.F.; Sudarkin, A.N.; Yakimenko, V.V. (). Anomalous absorption of light by silver thin films under frustrated total internal reflection. PFKMD, no. 4, 1986, 87-91. (RZFZA, 86/7L43).
432. Goryachev, B.V.; Mogil'nitskiy, S.B.; Rudkovskaya, V.F.; Savel'yev, B.A. (). Passage of radiation in a continuous spectrum through a medium with absorption in the spectral line. VINITI. Deposit, no. 1763-V, 13 Mar 1986, 7 p. (RZFZA, 86/7L336).
433. Konovalov, N.V. (IPM). Polarization matrices corresponding to conversions in a Stokes cone. IPM. Preprint, no. 171, 1985, 24 p. (RZFZA, 86/8L12).
434. Kosoburd, T.P.; Stepanov, N.S. (). Diffraction from oblique incidence of light on transparencies. OPSPA, v. 60, no. 3, 1986, 588-592.
435. Krivoshekov, S.G.; Petrov, N.I.; Sisakyan, I.N. (IOF). Correlated coherent states and propagation of arbitrary Gaussian beams in longitudinally homogeneous quadratic media with absorption or amplification. KVEKA, no. 7, 1986, 1424-1436.

436. Krivoshelykov, S.G.; Petrov, N.I.; Sisakyan, I.N. (IOF). Propagation of partially coherent radiation in longitudinal inhomogeneous square-law media with absorption or amplification. IOF. Preprint, no. 304, 1985, 22 p. (RZFZA, 86/7Zh417).
437. Kuz'min, V.N.; Babenko, V.A.; Leyko, S.T. (IFANB). Scattering of light by strongly prolate particles. IFANB. Preprint, no. 410, 1986, 44 p. (RZFZA, 86/8L60).
438. Lebedev, L.L.; Berezin, A.A.; Kornilov, B.A. (). Experimental solution to the problem of the corpuscular-wave dualism of visible light. VINITI. Deposit, no. 3045-V, 24 Apr 1986, 19 p. (RZFZA, 86/8L1).
439. Mihalache, D.; Corciovei, A. (). TM-polarized waves in asymmetric three-layer dielectric structures (in English). RRPQA, no. 8, 1985, 699-708. (RZFZA, 86/7L74).
440. Orayevskiy, A.N.; Protsenko, I.Ye. (FIAN). Explosive absorption of a finite-diameter beam. KVEKA, no. 7, 1986, 1467-1472.
441. Ostrovskiy, V.A. (SFTI). Demonstration of phase change in a light wave during passage through the focus of an optical system. IVUFA, no. 7, 1986, 99-100.
442. Pekar, S.I. (). Theoretical prediction and experimental detection of additional lightwaves in crystals. Problemy nelineynykh i turbulentnykh protsessov v fizike. Mezhdunarodnaya rabochaya gruppa, 2nd, Kiyev, 1983. Trudy. Part 1. Kiyev; Naukova dumka, 1985, 404-411. (RZFZA, 86/7L14).
443. Potekhin, V.K.; Shelepin, L.A. (FIAN). Theoretical group approach to classical statistical optics. Kvantovaya mekhanika i statisticheskiye metody. FIAN. Trudy, no. 173, 1986, 173-199.
444. Prishivalko, A.P.; Astaf'yeva, L.G.; Ledneva, G.P. (). Effect of the refractive index on the absorption efficiency and structure of the internal field of spherical weakly absorbing particles under resonance conditions. VINITI. Deposit, no. 2807-V, 17 Apr 1986, 10 p. (RZFZA, 86/7L348).

445. Radin, A.M.; Starkov, A.S.; Plachenov, A.B.; Glushchenko, Yu.V. (). Reflection of plane waves from smoothly irregular layers. OPSPA, v. 60, no. 3, 1986, 642-645.
446. Savel'yev, B.A.; Larionov, V.V.; Goryachev, B.V.; Mogil'nitskiy, S.B.; Kutlin, A.P. (). Angular distribution of radiation from a layer of a scattering medium of finite dimensions. VINITI. Deposit, no. 2397-V, 3 Apr 1986, 9 p. (RZFZA, 86/7L29).
447. Usoskin, A.I. (). Absorption resonance in glancing tunneling of light. OPSPA, v. 60, no. 2, 1986, 354-359.
448. Varnavskiy, O.P.; Golovlev, V.V.; Kirkin, A.N.; Mozharovskiy, A.M.; Sidoruk, N.V. (FIAN). Shortening of a small-area pulse during coherent propagation through an absorber. KVEKA, no. 7, 1986, 1526-1528.
449. Veklenko, B.A. (). Forward transition radiation in a medium of excited atoms. IVUFA, no. 2, 1986, 57-61. (RZFZA, 86/8L67).
450. Vergun, V.V.; Kokhanenko, G.P.; Krutikov, V.A. (). Theory for calculating pulsed transient functions in small-angle diffusion approximation. VINITI. Deposit, no. 1481-V, 5 May 1986, 11 p. (RZFZA, 86/7L28).
451. Vergun, V.V.; Kokhanenko, G.P.; Krutikov, V.A. (). Experimental and theoretical study on azimuthal dependencies of the polarization component vector and intensity function under multiple scattering. VINITI. Deposit, no. 2403-V, 3 Apr 1986, 16 p. (RZFZA, 86/7L819).
452. Vergun, V.V.; Krutikov, V.A. (). Information content in the frequency spectrum of pulsed signals under strongly anisotropic scattering. VINITI. Deposit, no. 2966-V, 22 Apr 1984, 14 p. (RZFZA, 86/8L19).
453. Volkova, Ye.A. (). Spatial statistics of multimode laser beams. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 50-56. (RZRAB, 86/8Ye23).
454. Yeritsyan, O.S. (). Reflection and refraction of light by the boundaries of an anisotropic magnetoactive dielectric. IAAFA, no. 1, 1986, 12-17. (RZFZA, 86/7L25).

## 2. Propagation in the Atmosphere

455. Ageyev, B.G.; Filimonova, V.A. (IOA). Background signal during optoacoustic measurements by a pulsed CO<sub>2</sub>-laser. IVUFA, no. 7, 1986, 117-119.
456. Belov, N.N. (NIFKhI). Probability of optical breakdown in an aerosol. DANKA, vol. 289, no. 6, 1986, 1370-1372.
457. Berezovskiy, V.V.; Gergel', I.V.; Igumnov, Ye.A.; Kornilov, S.T.; Petrishchev, V.A.; Protsenko, Ye.D.; Splavnik, Yu.V.; Chirikov, S.N. (MIFI). Remote laser gas-analyzer of ammonia. ZPSBA, vol. 45, no. 2, 1986, 333-337.
458. Bisyarin, V.P.; Bisyarina, I.P.; Tret'yakov, G.K. (). Angular scattering and attenuation of laser radiation by tropospheric aerosols of different microstructures. Elektromagnitnyye volny v atmosfere i kosmicheskom prostranstve. Moskva, 1986, 231-242. (RZFZA, 86/8L788).
459. Borisova, N.F.; Bukova, Ye.S.; Vasilevskiy, K.P.; Ladygin, I.N.; Liukonen, R.A.; Osipov, V.M.; Pavlov, N.I. (). Atmospheric absorption coefficients and H<sub>2</sub>O line parameters in the 1700-2100 cm<sup>-1</sup> band region. IFAOA, no. 8, 1986, 838-843.
460. Bucina, P.; Maloch, J. (). Using the interaction between laser radiation and the atmosphere to measure visibility (in Czech). CKCFA, v. A35, no. 6, 1985, 583-590. (RZRAB, 86/7Ye650).
461. Bulatov, V.P.; Sarkisov, O.M.; Kozliner, M.Z.; Yegorov, V.I. (IKhF). Photooxidation of hydrogen sulfide in the atmosphere. KHFID, no. 8, 1986, 1031-1036.
462. Galkin, Yu.S.; Pobedinskiy, G.G. (). Allowance for refraction in the alignment of a laser plane. GZKGA, no. 2, 1986, 17-21.
463. Gandurin, A.L.; Gersimov, S.B.; Zheltukhin, A.A.; Konovalov, I.P.; Kornilov, S.T.; Mel'nik, G.F.; Mikhalevich, Yu.Yu.; Ogurok, D.D.; Petrishchev, V.A.; Chirikov, S.N. (GIAP). Optoacoustic gas-analyzer of NO, NO<sub>2</sub>, NH<sub>3</sub>, C<sub>2</sub>H<sub>4</sub> impurities and saturated hydrocarbons. ZPSBA, vol. 45, no. 2, 1986, 343.

464. Georgiyevskiy, Yu.S.; Ivanov, V.I.; Kopeykin, V.M.; Sergeyev, I.Ya. (IFA). Finely dispersed aerosol fraction. IFAOA, no. 8, 1986, 831-837.
465. Godlevskiy, A.P.; Kopytin, Yu.D.; Sharin, P.P. (). Coherent reception of weak signals using a CO<sub>2</sub> laser for remote gas analysis of the atmosphere. ZPSBA, vol. 45, no. 2, 1986, 330.
466. Ivanov, A.P.; Chaykovskiy, A.P.; Khutko, I.S.; Vorobey, N.P. (IFANB). Backscattering coefficients of optical radiation from a sea surface during grazing incidence. IFAOA, no. 7, 1986, 750-756.
467. Ivanov, A.P.; Osipenko, F.P.; Chaykovskiy, A.P.; Shcherbakov, V.N. (IFANB). Aerosol optical characteristics and microstructure using a multiwavelength lidar technique. IFAOA, no. 8, 1986, 813-822.
468. Kostin, B.S.; Naats, I.E. (). Study on atmospheric aerosols by multifrequency laser probing. Part 2. Determining the size spectra and optical constants of atmospheric boundary layer aerosols. VINITI. Deposit, no. 1485-86, 05 March 1986. (IVUFA, no. 7, 1986, 125).
469. Loskutov, V.S.; Strelkov, G.M. (). Propagation of laser beams in an atmosphere of turbid sooty aerosols. Elektromagnitnyye volny v atmosfere i kosmicheskom prostranstve. Moskva, 1986, 255-262. (RZRAB, 86/8Ye737).
470. Monastyrnyy, Ye.A.; Patrushev, G.Ya.; Pokasov, V.V. (). Experimental studies on the effect of fluctuating wind on the time characteristics of a lightwave. RAELA, no. 1, 1986, 14-19.
471. Panin, V.F. (ToPI). Study on the microphysics of smoke aerosols. VINITI. Deposit, no. 2991-V, 23 Apr 1986, 19 p. (RZFZA, 86/8L61).
472. Perskiy, M.I. (). Study on the stability of the position of a laser beam in the atmosphere. GZKGA, no. 5, 1986, 16-18.
473. Pustovalov, V.K.; Bobuchenko, D.S. (BPI). Study on nonlinear heat exchange between optically heated spheroidal particles and the environment. DBLRA, no. 6, 1986, 513-516.



474. Solntsev, M.V. (FIAN). Statistical properties of echo signals in remote laser probing of the sea surface. KRSFA, no. 4, 1986, 22-24. (RZRAB, 86/8Ye931).
475. Stadnik, Ye.V.; Sklyarenko, I.Ya.; Guliyev, I.S.; Feyzullayev, A.A. (VNIIYaGG). Distribution of methane concentrations in the atmosphere over various tectonic regions. DANKA, vol. 289, no. 3, 1986, 703-705.
476. Vlasov, D.V. (IOF). Problems and methods in remote laser probing of the upper layer of the ocean. IANFA, no. 4, 1986, 724-735. (RZFZA, 86/8L793).
477. Zuyev, V.V.; Ponomarev, Yu.N.; Solodov, A.M.; Tikhomirov, B.A.; Parfenova, T.V.; Romanovskiy, O.A. (). Center shift of H(sub2)O absorption lines by air pressure when solving problems of atmospheric optics. ZPSBA, vol. 45, no. 1, 1986, 52-56.
478. Zuyev, V.Ye. (GOI). Laser probing of the atmosphere. OPMPA, no. 3, 1986, 45-56. (RZRAB, 86/8Ye932).

### 3. Propagation in Liquids

479. Gol'din, Yu.A.; Yevdoshenko, M.A. (IOAN). Study on spatial variation of the hydrooptic characteristics in frontal zones of the ocean. VINITI. Deposit, no. 1654-V, 10 Mar 1986, 9 p. (RZGFA, 86/7V204).
480. Kadnikov, O.G.; Kobizskoy, V.I.; Kovgan, L.N. (KhGU). Acoustic emission during dynamic change in the structure of liquids at the surface of a solid. UFIZA, no. 8, 1986, 1215-1218.
481. Kadnikov, O.G.; Kobizskoy, V.I.; Kovgan, L.N. (). Photoemission mechanism of the acoustic effect in a metal-liquid-optically transparent dielectric system. UFIZA, no. 2, 1986, 229-231. (RZFZA, 86/7L91).
482. Khalturin, V.I.; Shibarov, Ye.B. (MGI). Tables of hydrooptic characteristics of water in the open ocean (model calculations). Part 2. Chlorophyll, xanthophyll and two-component suspensions, allowing for backscatter amplification. VINITI. Deposit, no. 1419-V, 4 Mar 1986, 47 p. (RZGFA, 86/7V205).
483. Vlasov, D.V.; Strel'tsov, V.N. (IOF). Dual transmission of a laser beam through a narrow-band stochastic water surface. KVEKA, no. 7, 1986, 1501-1505.

484. Vodop'yanov, K.L.; Kulevskiy, L.A.; Mikhalevich, V.G.; Rodin, A.M. (IOF). Laser-induced generation of subnanosecond sound pulses in liquids. ZETFA, vol. 91, no. 1, 1986, 114-121.

#### 4. Adaptive Optics

485. Apanasevich, P.A.; Afanas'yev, A.A.; Dubovets, V.G.; Kireyev, S.Ye.; Odintsov, A.I.; Samson, B.A.; Turkin, N.G. (IFANB). Polarization characteristics of wavefront reversal under four-wave interactions in resonance media. IFANB. Preprint, no. 418, 1986, 34 p. (RZFZA, 86/8L1048).
486. Bakut, P.A.; Sviridov, K.N.; Ustinov, N.D.; Khomich, N.Yu. (). Problem of isoplanetism in optical systems for imaging through a turbulent atmosphere. OPSPA, v. 60, no. 3, 1986, 611-616.
487. Betin, A.A.; Milovskiy, N.D.; Roshchina, T.N.; Yastrebova, T.V. (). Amplification of opposed waves of different frequencies in two-pass amplifiers. IVYRA, no. 2, 1986, 145-154. (RZFZA, 86/7Zh37).
488. Betin, A.L.; Mitrogol'skiy, O.V. (). Evaluating the possibility of wavefront reversal of CO<sub>2</sub> laser radiation under stimulated Brillouin scattering. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 3-10. (RZRAB, 86/8Ye912).
489. Boyko, S.A.; Lisitsa, M.P.; Soskin, M.S.; Taranenko, V.B.; Shpak, A.M. (IPANUK; IFANUK). Wavefront reversal during a polarization four-wave interaction in KCl crystals with F(subA)(Li)-centers. UFIZA, no. 7, 1986, 976-978.
490. Gurov, I.P.; Nagibina, I.M. (). Effect of parabolic distortions in a wavefront on the accuracy of photoelectric interferometers. ZPSBA, v. 44, no. 3, 1986, 504-506.
491. Iskanderov, N.A. (). Reversal of a radiation wave front with six-photon parametric interaction in a nonmonochromatic pumping field. ZPSBA, vol. 45, no. 2, 1986, 302-307.
492. Kujawinska, M. (). Optical system testing by means of first and second derivatives of the wavefront aberration function (in English). OPAPB, no. 3, 1985, 231-238. (RZFZA, 86/7L536).

493. Onoshko, R.N.; Rubanov, A.S.; Tolstik, A.L. (). Effect of diffusion abrasion of fine-scale gratings on wave front reversal efficiency in a resonant medium. ZPSBA, vol. 45, no. 2, 1986, 315-318.
  494. Shlenov, S.A. (). Phase conjugating systems for controlling light beams in a turbulent atmosphere. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 72-78. (RZRAB, 86/8Ye58).
  495. Spevak, I.S. (). Wavefront reversal under stimulated scattering. OPSPA, vol. 61, no. 2, 1986, 354-358.
  496. Sukhorukov, A.P.; Timofeyev, V.V.; Trofimov, V.A. (MGU). Compensation for nonlinear distortions of light beams under the deformation limitations of a control mirror. KVEKA, no. 7, 1986, 1484-1495.
  497. Verevkin, Yu.K.; Pasmanik, G.A.; Tertyshnik, A.D. (IPF). Adding of frequencies of two complex-conjugate light fields. KVEKA, no. 8, 1986, 1706-1708.
  498. Yerokhin, A.I.; Kovalev, V.I.; Fayzullov, F.S. (FIAN). Measurement of nonlinear response parameters in liquids in a region of acoustic resonance by a nondegenerate four-wave mixing method. KVEKA, no. 7, 1986, 1328-1335.
  499. Zozulya, A.A.; Silin, V.P.; Tikhonchuk, V.T. (FIAN). Two-dimensional theory of wavefront reversal under stimulated scattering in crossed light beams. FIAN. Preprint, no. 84, 1986, 25 p. (RZFZA, 86/7L1068).
- D. COMPUTER TECHNOLOGY
500. Ammosov, V.V.; Bolozdynya, A.I.; Kubantsev, M.A.; Lebedenko, V.N.; Suvorov, A.L. (ITEF). New method for detecting radiation in microchannel plate instruments. ITEF. Preprint, no. 48, 1986, 15 p. (RZRAB, 86/8Ye973).
  501. Bergmann, H. (). Optical data recording on laminar recording media. BITOA, no. 1, 1986, 19-25,32. (RZRAB, 86/7Ye583).
  502. Jannson, J.; Jannson, T.; Zawislowski, Z. (). Method for holographic optical information storage. Patent Poland, no. 129284, 31 Oct 1985. (RZRAB, 86/7Ye684).
  503. Kanevskiy, D.Z. (). Laser peripheral devices for electronic computers (review). PRSUB, no. 8, 1986, 9-14.

504. Mokhun', I.I.; Roslyakov, S.N. (). Optical scale-invariant conversion in real time. AVMEB, no. 1, 1986, 82-86. (RZFZA, 86/7L690).
505. Shatin, M.Yu.; Matyukhina, N.A. (). Means for automation and mechanization of administrative work at the "Poligrafbummash-85" international exhibit. PRSUB, no. 8, 1986, 43-44.
506. Sinitsyn, G.V. (IFANB). Discrete all-optical logic elements based on bistable thin-film interferometers. IFANB. Preprint, no. 404, 1985, 11 p. (RZFZA, 86/7L700).
507. Vodovatov, I.A.; Rogov, S.A. (). Passage of a random signal through an astigmatic optical system. AVMEB, no. 1, 1986, 86-87. (RZFZA, 86/7L691).
508. Zubov, V.A.; Krayskiy, A.V.; Mironova, T.V.; Sultanov, T.T.; Khlebnikov, A.G. (FIAN). Optoelectronic information processing by means of a Mach-Zehnder interferometer modified for correlation analysis. FIAN. Preprint, no. 41, 1986, 57 p. (RZFZA, 86/8A296).

#### E. HOLOGRAPHY

509. Afonskiy, A.K.; Kurzenkov, V.N.; Sergeyev, P.A.; Sokolov, V.N. (GOI). Use of graphitized photosensitive layers for the control of infrared lens objectives by a holographic method. OPMPA, no. 7, 1986, 61-62.
510. Aristov, A.V.; Vorzobova, N.D.; Kozlovskiy, D.A.; Levin, M.B.; Stasel'ko, D.I.; Levin, M.B.; Strigun, V.L.; Cherkasov, A.S. (). Image-hologram recording by a pulsed dye solution laser. OPSPA, vol. 61, no. 1, 1986, 138-140.
511. Bazhenov, V.Yu.; Berezin, I.V.; Burykin, N.M.; Yeremeyev, N.L.; Kazanskaya, N.F.; Soskin, M.S.; Taranenko, V.B. (). Recording of volume holograms in gelatin with photoinduced cross-linking by diazides. UFIZA, no. 2, 1986, 193-195. (RZFZA, 86/7L761).
512. Belkin, V.G.; Kukharchik, P.D.; Skripko, A.S. (NIIPFP). Thermodynamic recording of infrared holograms. ZTEFA, no. 7, 1986, 1377-1378.

513. Bogomolov, V.A.; Morgulev, S.A.; Pavlov, A.P.; Fin, V.A.; Shishanov, A.V. (MEI). Methods for optimization of digital radioholographic image synthesizers with fast response as the criterion. MEI. Trudy nauchnykh trudov, no. 53, 1985, 79-84. (RZRAB, 86/7Ye706).
514. Bulygin, A.R.; Uzhviyeva, I.A. (). Shift of spectral characteristics of hologram diffraction gratings in the long wavelength spectral range. OPSPA, vol. 61, no. 1, 1986, 173-174.
515. Burova, N.A.; Cherkasov, Yu.A. (). Photothermoplastic recording of holographic information in the 730-1000 nm spectral range, based on the electrophotographic sensitivity of CdSe beyond the fundamental-absorption band edge. OPSPA, vol. 61, no. 1, 1986, 8-10.
516. Denisyuk, Yu.N.; Mkhitarian, E.M. (). Conversion of beams of a dynamic hologram in a ring resonator. PZTFD, no. 13, 1986, 820-824.
517. Dovgalenko, G.Ye.; Kukhtarev, N.V.; Mayevskiy, S.M.; Murav'yev, V.V. (IFANUK). Energy exchange of dual light waves in hydrotropic photorefractive crystals. PZTFD, no. 16, 1986, 966-969.
518. Grishanov, A.N.; De, S.T.; Denezhkin, Ye.N.; Khandogin, V.A. (). Digital treatment of holographic interferograms based on Moire effects. AVMEB, no. 4, 1986, 97-104.
519. Grishanov, A.N.; De, S.T.; Kukharev, A.V.; Khandogin, V.A. (). Quantitative interpretation of dual wavelength holographic topograms. AVMEB, no. 4, 1986, 90-96.
520. Ilieva, R.; Kovachev, M.; Ilieva, M.; Minchev, G. (Bulgaria). Recording of compositional holograms. OPSPA, vol. 61, no. 2, 1986, 395-397.
521. Kal'nitskaya, T.Ya.; Smirnov, V.V. (). Effect of parasitic structures on optical characteristics of bichromated gelatin holographic mirrors. OPSPA, vol. 61, no. 2, 1986, 398-402.
522. Kaluzny, J. (). Recording of acoustic holograms (in English). Acta physica Universitatis Comeniana, Bratislava, vol. 24, 1984, 49-56. (RZFZA, 86/7P194).

523. Klibanov, M.V. (KuBU). Determination of a finite function by its Fourier transform argument. DANKA, vol. 289, no. 3, 1986, 539-540.
524. Koreshev, S.N. (). Production of holographic mirrors in spatially incoherent light. OPSPA, vol. 61, no. 1, 1986, 133-137.
525. Kvapil, J. (). Reflection reconstruction of transmission focused image holograms (in English). AUONA, no. 23, 1984, 39-43. (RZFZA, 86/8L752).
526. Markov, V.B.; Shishkov, V.F. (IFANUK). Bragg diffraction with multiple re-reflections. IFANUK. Preprint, no. 33, 1986, 50 p. (RZFZA, 86/7L24).
527. Nefed'yev, L.A. (). Space-time transformations of echo-holograms in two- and three-level gas systems. OPSPA, vol. 61, no. 2, 1986, 387-394.
528. Sergeyev, P.A.; Podoba, V.I. (GOI). Selection of optimal conditions of holographic recording of wave fronts during optotechnical tests of objective lenses. OPMPA, no. 7, 1986, 50-53.
529. Vasnetsov, M.V. (). Light diffraction based on a three dimensional holographic grating with bent isophase surfaces. OPSPA, vol. 61, no. 1, 1986, 178-179.
530. Voronin, Ye.N. (). Optimum solutions of microwave holography problems. RAELA, no. 8, 1986, 1495-1506.
531. Zelenskaya, T.Ye.; Shandarov, S.M. (TIASUR). Photogeneration of acoustic waves on a holographic grating in photorefractive crystals. DANKA, vol. 289, no. 3, 1986, 600-602.
532. Zeylikovich, I.S.; Lyalikov, A.M.; Spornik, N.M. (GrodGU). Dye laser for holographic interferometry. KVEKA, no. 7, 1986, 1386-1390.

# F. LASER-INDUCED CHEMICAL REACTIONS

533. Alkhazov, G.D.; Barzakh, A.Ye.; Denisov, V.P.; DERNYATIN, A.G.; Ivanov, V.S.; Chubukov, I.Ya.; Letokhov, V.S.; Mishin, V.I.; Sekatskiy, S.K.; Fedoseyev, V.N. (LIYaF). Using the laser nuclear complex at the Leningrad Institute of Nuclear Physics, on line with an accelerator and the IRIS mass-separator, to measure optical isotopic shifts of atomic lines of short-lived europium isotopes. LIYaF. Preprint, no. 1161, 1986, 39 p. (RZFZA, 86/7V373).
534. Bakhramov, S.A.; Kokhkhharov, A.M.; Tikhonenko, V.V. (). Ionization of rubidium atoms in a resonance field. IUZFA, no. 1, 1986, 69-71. (RZFZA, 86/7L139).
535. Bondar', I.I.; Suran, V.V. (). Probability of three- and six-photon ionization of atomic calcium. OPSPA, vol. 61, no. 1, 1986, 24-28.
536. Borovkova, V.A.; Kiryukhin, Yu.I.; Bagdasar'yan, Kh.S. (NIFKhI). Kinetics of exchange recombination of ion radicals. Formation of triplets during recombination. KHVKA, no. 4, 1986, 351-353.
537. Chirvonnyy, V.S.; Dzhagarov, B.M.; Gurinovich, G.P. (IFANB). Picosecond kinetics of the photodissociation of axial ligands in complex porphyrins with Fe(II) and Ni(II). KHFID, no. 7, 1986, 898-901.
538. Danilov, V.P. (IOF). Defect formation under intense optical excitation of [photoionized] alkali-halide crystals with mercury-like ions. Lazernyye metody issledovaniy defektov v poluprovodnikakh i dielektrikakh. IOF. Trudy. Vol. 4, 1986, 60-98.
539. Delone, N.B.; Zon, B.A.; Kraynov, V.P. (). Evaporative model of the formation process of multicharged ions in a strong electromagnetic field. IANFA, no. 4, 1986, 773-778. (RZFZA, 86/8L114).
540. Gesemann, R.; Schkolnikson, M.; Wolf, R.; Koehler, Th. (). Laser activation of dielectric surfaces for partial chemical reductive metal deposition. Patent GDR, no. 228835, 23 Oct 1985. (RZRAB, 86/8Ye935).
541. Kuz'menko, V.A. (IAE). Multi-photon dissociation as an absorption band reference method in a CF(sub3)COCl infrared spectrum. KHFID, no. 8, 1986, 1145-1146.

542. Lunin, B.S.; Kuricheva, O.V.; Zhitnev, Yu.N. (MGU). Determination of the Arrhenius parameters for the thermal dissociation of ozone reaction triggered by radiation from a pulsed infrared laser. ZFKHA, no. 8, 1986, 2050-2053.
  543. Plyusnin, V.F. (IKhKG). Photochromic transformations of the Br(sub2)(sup -) ion radical. KHVKA, no. 4, 1986, 333-338.
  544. Skachkov, A.N.; Sosina, G.F. (). Effect of inhibitors on the reaction of tetrafluorohydrazine with hydrogen. KHFID, no. 8, 1986, 1111-1117.
  545. Volkov, S.V.; Gurko, A.F.; Lutoshkin, V.I.; Mulenko, S.A.; Botsman, A.V. (). Lasers in chemistry (in Ukrainian). VNUKA, no. 8, 1986, 65-77.
  546. Yelizarov, A.Yu.; Cherepkov, N.A. (FTI). Experimental determination of the virtual inertia of self-ionization states during the multi-step ionization of atoms. ZFPRA, vol. 44, no. 1, 1986, 3-5.
  547. Yevseyev, A.V. (ISAN). Multiphoton dissociation of CF(sub3)Br molecules by multifrequency infrared laser radiation. KVEKA, no. 8, 1986, 1688-1691.
- G. MEASUREMENT OF LASER PARAMETERS
548. Batarchukova, N.R.; Glozman, Ts.I.; Irikova, L.A.; Leybengardt, G.I. (). Lengths of lightwaves and their use in metrology. Problemy kvantovoy metrologii. CVSKMFFK, 1st, Leningrad, Dec 1982. Materialy. Leningrad, Energoatomizdat, 1985, 41-43. (RZFZA, 86/7A160).
  549. Berger, N.K.; Deryugin, I.A.; Novokhatskiy, V.V. (). Device for automatic control of laser wavefronts. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 100-105. (RZRAB, 86/8Ye748).
  550. Bergmann, J.; Ose, E.; Triebel, W. (). Measuring the electric and optical properties of flow-through discharges in CO2 gas-transport lasers. EXPPA, no. 1, 1986, 17-25. (RZRAB, 86/8Ye750).
  551. Demchuk, M.I.; Ivanov, M.A.; Manichev, I.A.; Mikhaylov, V.P.; Ostapenko, A.V.; Sisakyan, I.N. (IOF). Programmed change in the parameters of ultrashort pulses from solid state lasers by means of a saturable absorber. IOF. Preprint, no. 69, 1986, 22 p. (RZFZA, 86/7L1037).



552. Gheorghiu, O.C.; Mandache, C. (). Atomic frequency, Time and length standards. SCEFA, no. 2, 1986, 183-215. (RZFZA, 86/8zh22).
553. Hentschel, P.; Huebner, E. (). Method to stabilize the position and plane of directional laser radiation. Patent GDR, no. 224155, 26 Aug 1985. (RZRAB, 86/8Ye722).
554. Holeiko, K. (). Use of scattering plates for power measurements of optical sources with a narrow radiation pattern (in English). ETNTA, no. 3-4, 1984(1985), 41-52. (RZFZA, 86/8L730).
555. Kirilenko, Ye.K.; Markov, V.B.; Shishkov, V.F. (). Measuring scheme for the investigation of the interaction of laser beams in resonant media. PRTEA, no. 4, 1986, 222.
556. Kokodiy, N.G.; Susenko, L.N.; Yefimov, V.F.; Timoshenko, V.N. (). Ponderomotor instrument for measuring high energies of optical radiation with simultaneous determination of the energy center of the beam. RTKHA, no. 76, 1986, 124-128. (RZRAB, 86/7Ye509).
557. Luemkemann, B. (). Frequency- and power-stabilized laser with internal mirrors. Patent GDR, no. 227295, 11 Sep 1985. (RZRAB, 86/7Ye163).
558. Mandel', A.Ye.; Savitskiy, V.K. (). Package of applied programs for modeling of active mode locking in c-w solid state lasers. VINITI. Deposit, no. 2576-V, 9 Apr 1986, 13 p. (RZFZA, 86/8L1000).
559. Nikulin, A.B.; Tuchin, V.V. (). Possibility of reducing the level of frequency fluctuations in lasers with nonlinear absorption. VESCB, no. 14, 1985, 22-26. (RZFZA, 86/7L1011).
560. Rivlin, L.A. (). Microwave test of the frequency independence of Planck's constant. KVEKA, no. 8, 1986, 1696-1697.
561. Schubert, D.; Wanie, G.; Wilhelmi, B. (). Method and device to regulate the modulation frequency of lasers. Patent GDR, no. 225272, 24 Jul 1985. (RZRAB, 86/7Ye181).
562. Valuyev, A.D.; Vasin, V.L. (FIAN). Method and device to measure the spatial parameters of pulsed laser radiation. OTIZD, no. 7, 1986, 736729. (RZRAB, 86/8Ye745).

## H. LASER MEASUREMENT APPLICATIONS

### 1. Direct Measurement by Laser

563. Akopyan, I.G.; Semeykin, N.P.; Semeykina, N.A.; Fil', V.A.; Sharshin, Yu.A. (). Device to measure Doppler frequencies. OTIZD, no. 8, 1986, 1215042. (RZRAB, 86/8Ye755).
564. Aranchuk, V.M.; Drik, F.G. (GOI). Laser differentiating interferometer with a hologram grating for the investigation of mechanical vibrations. OPMPA, no. 7, 1986, 35-37.
565. Artamonov, V.F.; Belousov, P.Ya.; Dubnishchev, Yu.N.; Zhmud', V.A.; Stolpovskiy, A.A. (IAESOAN). Laser velocimeter for measuring the speed of hot rolling. STALA, no. 8, 1986, 65-68.
566. Bakanov, L.V.; Lebedev, V.D.; Naydenkov, A.F. (LIYaF). Holographic recording of particle tracks in a Wilson chamber. LIYaF. Preprint, no. 1163, 1986, 16 p. (RZFZA, 86/7V784).
567. Bartke, Ye.; Ivanov, I.Ts. (). Use of holography in high-spatial-resolution track detectors. FECAA, no. 3, 1986, 546-601. (RZFZA, 86/8V572).
568. Borisov, V.A.; Bugayenko, O.I.; Degtyarev, V.S.; Delets, A.S.; Kesel'man, I.G. (GA@UKr). Device for the measurement of a light scattering matrix. PRTEA, no. 4, 1986, 225.
569. Budkin, L.A.; Lyalyaskin, A.A.; Penenkov, M.N.; Pikhtele, A.I.; Puzanov, S.L.; Selivanov, S.I. (). Light shifts in (sup87)Rb under laser pumping. IVYRA, no. 8, 1986, 969-971.
570. Buslayeva, V.Ye.; Korneva, A.N.; Nalbandov, L.V.; Sorokina, I.S. (). Effect of various factors during the high-precision absolute refractive index measurement using a unit with a Fabry-Perot interferometer. IZTEA, no. 8, 1986, 32-34.
571. Buzulutskov, A.F.; Vasil'chenko, V.G.; Turchanovich, L.K. (IFVE). Fiberoptic information display from a wire chamber operating under heavy current. IFVE. Preprint, no. 38, 1986, 6 p. (RZFZA, 86/8V574).

572. Devyatykh, G.G.; Gusev, A.V.; Kabanov, A.V.; Zhernenkov, N.V.; Churbanov, M.F.; Skripachev, I.V.; Polozkov, S.A. (IKhAN). Low-temperature heat capacity of arsenoselenide glasses. FKSTD, no. 4, 1986, 499-501.
573. Dianov, Ye.M.; Neustruyev, V.B.; Khotyaintsev, S.N.; Yarovoy, L.K. (IOF; KPIA). Differential Doppler anemometers with single-mode fiber-optical waveguides. KVEKA, no. 8, 1986, 1733-1736.
574. Donskoy, Ye.M.; Toker, G.R. (IOF). Single mode optical waveguide holographic interferometer for the measurement of parameters of physical fields. PZTFD, no. 13, 1986, 809-812.
575. Druzhinin, A.V.; Lobov, I.D. (IFM). Automatic magnetooptic device. VINITI. Deposit, no. 2812-V, 17 Apr 1986, 20 p. (RZFZA, 86/7L614).
576. Druzhinin, A.V.; Mayevskiy, V.M. (IFM). Magnetooptic method for determining the refractive index of transparent media. VINITI. Deposit, no. 2813-V, 17 Apr 1986, 17 p. (RZFZA, 86/7L727).
577. Dyumin, A.N.; Ruban, V.A.; Tokarev, B.B.; Vlasov, M.F. (LIYaF). Scattering of fast neutrons in crystals. UFIZA, no. 8, 1986, 1135-1140.
578. Farkas, J. (). Laser interferometry for applied technical research (in Hungarian). MEAUA, no. 12, 1985, 455-458. (RZRAB, 86/8Ye753).
579. Frankowski, G.; Leopold, J.; Zeidler, H. (). Holographic interferometry study on deformations in loaded cutting tools (in German). WZTKA, no. 5, 1985, 762-767. (RZRAB, 86/8Ye998).
580. Gadzhiyev, S.A.; Zeynally, A.Kh.; Nesrullayev, A.N. (). Holographic methods to determine the quality of oriented textures of liquid crystals. IAFMA, no. 6, 1985, 61-64. (RZFZA, 86/8I148).
581. Gektin, A.V.; Smushkova, V.I.; Charkina, T.A.; Shiran, N.V. (VNIIMono). Impurity aggregation in KCl-Eu crystals. UFIZA, no. 8, 1986, 1232-1234.
582. Groene, R.; Hascik, J.; Toth, I. (). Automatically controlled spectrometer with laser alignment of the sample. Author's certificate Czechoslovakia, no. 221675, 15 Mar 1986. (RZRAB, 86/8Ye763).

583. Guzhova, I.P.; Chashchin, S.P. (GOI). Using a refractometric method to measuring the parameters of planar waveguides in the near IR. OPMPA, no. 3, 1986, 59-60.
584. Jake, M. (). Method and device for measuring the internal diameter of capillaries. Author's certificate Czechoslovakia, no. 226381, 1 Nov 1985. (RZRAB, 86/8Ye586).
585. Kalinushkin, V.P. (IOF). Using scattering of laser radiation in the IR to study impurity defects in semiconductors. Lazernyye metody issledovaniy defektov v poluprovodnikakh i dielektrikakh. IOF. Trudy. Vol. 4, 1986, 3-59.
586. Kirillov, M.A.; Kuz'min, M.V.; Stepochkin, A.A. (MIIGAik). Metrological certification of the optomechanical comparator at the Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography. GZKGA, no. 3, 1986, 26-29.
587. Kiseleva, T.P.; Orelkin, N.F. (). Fiberoptic device for converting the scale of images. OTIZD, no. 5, 1986, 1210111. (RZRAB, 86/8Ye556).
588. Krivoshelykov, S.G.; Sisakyan, I.N. (IOF). Functional possibilities and sensitivity of sensors based on multimode graded-index optical waveguides. IOF. Preprint, no. 70, 1986, 25 p. (RZFZA, 86/7L721).
589. Krupicka, V. (). Reflectional fiberoptic sensor. Author's certificate Czechoslovakia, no. 221382, 15 Feb 1986. (RZRAB, 86/8Ye531).
590. Krylov, V.A.; Krylov, V.V.; Lazukina, O.P.; Lazarev, S.Ye.; Il'in, V.M.; Berezin, A.A.; Kuznetsov, V.N.; Golubev, A.V.; Malyshev, K.N. (). Automated counter of suspended particles in liquids. IZTEA, no. 7, 1986, 55-56.
591. Leidenberger, G. (). Measuring module for lightguide measuring devices. Patent GDR, no. 226664, 28 Aug 1985. (RZRAB, 86/8Ye588).
592. Loginov, A.P.; Khizhnyak, A.I.; Shvarchuk, Ye.A.; Shpak, M.T. (). Using a shadow method to study electric explosions in lithium wires. UFIZA, no. 3, 1986, 336-338. (RZFZA, 86/8L735).

593. Maksimtsev, S.A. (). Computer modeling of the process of photorecording in optical pulsed rangefinders. IZTEA, no. 2, 1986, 23-24. (RZRAB, 86/7Ye548).
594. Mardezhov, A.S.; Svitashov, K.K.; Shvets, V.A. (). Analysis of a film at an air-liquid interface in immersion measurements through a plane parallel layer of the liquid. IFUZA, no. 1, 1986, 48-50. (RZFZA, 86/7L53).
595. Maris, Z.; Vasiliu, V.; Ristici, M.; Herisanu, N.; Bachmann, P.; Sandulache, C. (). He-Ne laser for controlling profiles. SCEFA, no. 1, 1986, 96-100. (RZRAB, 86/8Ye843).
596. Novikov, M.A. (). A polarization ring interferometer-ellipsometer. OPSPA, vol. 61, no. 2, 1986, 424-427.
597. Polishchuk, R.F. (). Control of a time scale in the vicinity of the earth. IZTEA, no. 8, 1986, 13-16.
598. Popescu, Gh.; Apostol, D.; Damian, V. (). Measuring the sensitivity of He-Ne lasers to vibrations (in English). RRPQA, no. 8, 1985, 685-690. (RZFZA, 86/7L730).
599. Popov, O.I.; Bolonin, A.A.; Khavinson, L.F.; Fedorin, V.L.; Shur, V.L. (). Design and experimental use of a standard-replica of a meter-length unit. IZTEA, no. 7, 1986, 20-22.
600. Puodzhyukinas, L.Y.; Matyukas, A.P.; Pranyavichyus, L.I.; Tamulevichyus, S.I.; Augulis, L.P. (KaPI). Using laser interferometry systems to study ion interactions with solids. LFSBA, no. 4, 1986, 484-490.
601. Schwider, J.; Elssner, K.E.; Spolaczyk, R.; Merkel, K. (). Real-time interferometry (in German). OPAPB, no. 3, 1985, 255-285. (RZFZA, 86/8L560).
602. Shatokhin, V.I. (). Laser rangefinder for longitudinal alignment of linear accelerators. Diagnostika puchkov zaryazhennykh chastits v uskoritlyakh. RTI. Moskva, 1984, 118-124. (RZFZA, 86/8V413).
603. Smirnov, A.G.; Smirnov, V.G. (NIIEA). Double-exposure holographic interferometry display of a dense plasma. NIIEA. Preprint, no. P-K-0710, 1985, 7 p. (RZFZA, 86/8G265).

604. Smol'skiy, I.L.; Malkin, A.I.; Chernov, A.A. (IKAN). Kinetics and irregularity in the growth of faces of a prism and of a bipyramid of ADP crystals. KRISA, no. 4, 1986, 769-775.
605. Suynov, V.Kh.; Suynov, S.Kh. (). Method for holographic interferometric study on temperature fields. Author's certificate Bulgaria, no. 36464, 30 Nov 1984. (RZRAB, 86/8Ye985).
606. Tarlykov, V.A. (). Effect of mode composition of radiation on the error of a diffraction method of the measurement of small linear measurements. IZTEA, no. 8, 1986, 22-24.
607. Ustavich, G.A.; Salin, Yu.N.; Oblakov, V.A. (). Automation of a string shadow method of alignment measurements. GZKGA, no. 6, 1986, 17-19.
608. Vavrouch, D.; Slamenik, F. (). Laser velocity and length meter (in English). CWCIMEKO, 10th, Praha, 22-26 Apr 1985. Preprints. Vol. 4. Praha, Dum techn. CSVTS. 1985, 138-145. (RZFZA, 86/7A201).
609. Vaytkus, Yu.; Yarashyunas, K.; Ionikas, L.; Amstibovskiy, V. (VilGU). Effect of optical inhomogeneities in silicon wafers on photoinduced diffraction of light. LFSBA, no. 4, 1986, 462-468.
610. Vil'danov, R.R.; Mirzayev, A.T.; Yakubov, A.N. (). Recording and reconstruction of images of coherently illuminated objects by a method of heterodyne intensity interferometry. RAELA, no. 8, 1986, 1671-1673.
611. Vitushkin, L.F.; Mostepanenko, V.M. (). Detection of gravitational waves and interferometric methods for measuring extremely small displacements. Problemy kvantovoy metrologii. CVSKMFFK, 1st, Leningrad, Dec 1982. Materialy. Leningrad, Energoatomizdat, 1985, 44-49. (RZFZA, 86/7A198).
612. Voronin, Yu.M.; Mokhnatkin, A.V.; Khaytlina, R.Yu. (GOI). Coherent optical reconstruction of electron microscopy images. GOI. Trudy, no. 192/2, 1985, 33-42. (RZFZA, 86/7Zh601).
613. Voytenko, S.P.; Tarasenko, N.I. (). Improvement of metrological reliability of geodetic engineering work. GZKGA, no. 6, 1986, 59-61.
614. Yurov, V.I. (). Initial processing of structural zone photographs. GZKGA, no. 7, 1986, 32-35.

615. Zemlyanskiy, V.M.; Divnich, N.P. (KIIGA). Study on a differential circuit for a laser Doppler anemometer with symmetric detection of forward scattered radiation. VINITI. Deposit, no. 2546-V, 9 Apr 1986, 27 p. (RZFZA, 86/8L1149).
616. Zemlyanskiy, V.M.; Divnich, N.P. (KIIGA). Polarization phase effects on laser anemometer signals. VINITI. Deposit, no. 2545-V, 9 Apr 1986, 28 p. (RZFZA, 86/8L1150).
617. Zemskov, K.I.; Kazaryan, M.A.; Petrash, G.G. (FIAN). Imaging in polarized light beams in optical systems with brightness amplifiers. KRSFA, no. 4, 1986, 17-18. (RZFZA, 86/8L643).

## 2. Laser-Excited Optical Effects

618. Andrushko, A.I.; Salikhov, Kh.M.; Slobodchikov, S.V.; Talalakin, G.N.; Filaretova, G.M. (). Lifetimes of current carriers in solid solutions of  $\text{In}(1-x)\text{Ga}(x)\text{As}$  doped by Zn and Mn. FTPPA, no. 3, 1986, 537-538.
619. Babukova, M.V.; Glebov, L.B.; Nikonorov, N.V.; Petrovskiy, G.T.; Tsekhomskiy, V.A. (). Research and development of photocontrolled planar waveguides of photochromic glasses. FKSTD, no. 4, 1986, 434-438.
620. Bagdasarov, Kh.S.; Zhekov, V.I.; Kisletsov, A.V.; Murina, T.M.; Popov, A.V. (IOF). Coefficients of internal absorption in  $[\text{Y}(1-x)\text{Er}(x)](\text{sub}3)\text{Al}(\text{sub}5)\text{O}(\text{sub}12)$  crystals. IOF. Preprint, no. 46, 1986, 26 p. (RZFZA, 86/7L346).
621. Bakarev, A.Ye.; Chapovskiy, P.L. (IAESOAN). Observation of an abnormally large isotopic effect in the conversion of nuclear spin modifications of a  $\text{CH}(\text{sub}3)\text{F}$  molecule. ZFPRA, vol. 44, no. 1, 1986, 5-6.
622. Bakun, A.A.; Zakharchenya, B.P.; Tkachuk, M.N.; Fleysher, V.G. (). Surface photocurrent due to the optical orientation of electrons in a semiconductor. IANFA, no. 2, 1986, 235-238. (RZFZA, 86/7N459).
623. Baltrameyunas, R.; Veletskas, D.; Kapturauskas, I.; Kazhukauskas, V.; Storasta, Yu. (VilGU). Nonlinear refraction and variation of Hall mobility in highly excited CdSe crystals. FTPPA, no. 7, 1986, 1243-1247.
624. Basun, S.A.; Kaplyanskiy, A.A.; Feofilov, S.P. (FTI). Sign-variable resonant photostimulated electric conductivity in chromium ions in ruby. ZFPRA, v. 43, no. 7, 1986, 344-347.

625. Baydullayeva, A.; Mozol', P.Ye.; Sal'kov, Ye.A.; Vitryakhovskiy, N.I. (). Laser-induced change in the photoelectric properties of  $Mg(x)Cd(1-x)Te$  solid solutions. DANUA, no. 1, 1986, 31-33. (RZFZA, 86/7N443).
626. Beregulin, Ye.V.; Ganichev, S.D.; Yaroshetskiy, I.D. (FTI). Nonlinear light absorption in p-type Ge in the infrared spectral range. FTPPA, no. 7, 1986, 1180-1183.
627. Bogdanov, V.L.; Yevdokimov, A.B. (). Light quenching and amplification of the fluorescence of diphenylpolyene solutions. OPSPA, vol. 61, no. 2, 1986, 318-324.
628. Brodin, M.S.; Gushcha, A.O.; Taranenko, L.V.; Tishchenko, V.V.; Khotyaintsev, V.N.; Shevel', S.G. (). Nonlinearity of the lux intensity characteristics of exciton radiation from direct-band semiconductors. UFIZA, no. 3, 1986, 342-344. (RZFZA, 86/8L471).
629. Bronevoy, I.L.; Kumekov, S.Ye.; Perel', V.I. (FTI). Mechanism of reversible picosecond bleaching of direct-gap semiconductors under inter-band absorption of high-power light pulses. ZFPRA, v. 43, no. 8, 1986, 368-370.
630. Brueckner, V.; Kerstan, F. (). Device for generating short laser-controlled high-voltage pulses. Patent GDR, no. 224166, 26 Jun 1985. (RZRAB, 86/7Ye596).
631. Burov, L.I.; Voropay, Ye.S.; Gancherenok, I.I.; Sayechnikov, V.A. (). Influence of Brownian rotation on the effects of light-induced anisotropy in solutions of complex molecules. OPSPA, vol. 61, no. 1, 1986, 64-67.
632. Cybulski, A.; Hoffmann, J. (). Electric properties of a c-w optical discharge (in Polish). Pr. IPPT PAN [expansion not given], no. 40, 1985, 27 p. (RZFZA, 86/7G258).
633. Darbinyan, S.M.; Ispiryan, K.A.; Saakyan, D.B. (YeFI). Polarization and spectrum of beams of gamma-quanta obtained during the collision of relativistic ions with laser photons. ZFPRA, vol. 44, no. 1, 1986, 7-9.



634. Didenko, A.Ya.; Lemeshko, V.D.; Ostrovskiy, V.A.; Tuzhikov, M.V. (MIFI). Effect of the duration of the front of a high-voltage pulse on the magnitude of the effect of sensitivity change in a photographic emulsion. ZNPFA, no. 4, 1986, 291-294.
635. D'yakonov, M.I.; Marushchak, V.A.; Perel', V.I.; Titkov, A.N. (FTI). Effect of deformation on the spin relaxation of conductivity electrons in A(sub2)B(sub5) semiconductors. ZETFa, v. 90, no. 3, 1986, 1123-1133.
636. Dykman, I.M.; Tomchuk, P.M. (IPANUK). Diffraction of light in a semiconductor with a superlattice formed by heated carriers. UFIZA, no. 6, 1986, 841-848.
637. Epshteyn, E.M. (). Polarization of an inhomogeneous semiconductor by a high-frequency electric field. FTTPA, no. 7, 1986, 1343-1345.
638. Fotakis, C.; Farkas, Gy.; Horvath, Z.Gy. (). Experiments on laser induced spontaneous bremsstrahlung radiated by electrons of metal surfaces and plasmas (in English). KFKKA, no. 103, 1985, 11 p. (RZFZA, 86/8L1098).
639. Georgobiani, A.N.; Gruzintsev, A.N.; Ratseyev, S.A.; Tezlevan, V.Ye.; Tiginyanu, I.M.; Ursaki, V.V. (). Luminescence and photoconductivity caused by antisite defects in CdIn(sub2)S(sub4) single crystals (in English). CRTED, no. 2, 1986, 259-263. (RZFZA, 86/7N493).
640. Gorelenok, A.T.; Gruzlov, V.G.; Marushchak, V.A.; Titkov, A.N. (FTI). Spin splitting of the conductivity band in InP. FTTPA, no. 2, 1986, 347-350.
641. Gorelenok, A.T.; Marushchak, V.A.; Titkov, A.N. (). Determination of spin splittings of the conductivity band in A(III)B(V) compounds. IANFA, no. 2, 1986, 290-293. (RZFZA, 86/7N458).
642. Gorshkov, B.G.; Yepifanov, A.S.; Manenkov, A.A.; Panov, A.A. (IOF). Laser excitation of nonequilibrium carriers in wideband dielectrics. Lazernyye metody issledovaniy defektov v poluprovodnikakh i dielektrikakh. IOF. Trudy. Vol. 4, 1986, 99-151.

643. Grigor'yev, N.N.; Ovchinnikov, A.V.; Fok, M.V. (FIAN). Kinetics of luminescence polarization in europium- and thulium-activated zinc sulfide single crystals. Tsentry svecheniya redkozemel'nykh ionov v kristallofosforakh. FIAN. Trudy, no. 175, 1986, 124-138.
644. Gulyayev, V.S.; Safonov, V.P.; Tsvetkov, Ye.G. (IAESOAN). Photostimulated condensation of potassium vapor by an alexandrite laser with an intracavity potassium cuvette. IAESOAN. Preprint, no. 300, 1986, 9 p. (RZFZA, 86/7L1135).
645. Gusyatnikov, V.N.; Ivanchenko, V.A.; Klimov, B.N.; Naumenko, G.Yu.; Nikolayev, M.V. (NIIMF). Photoconduction of classical semiconductor periodic structures based on silicon during light intraband absorption. FTPPA, no. 7, 1986, 1323-1325.
646. Kask, N.Ye.; Leksina, Ye.G.; Fedorov, G.M.; Yaborov, M.T. (MGU). Nonequilibrium luminescence in glass under laser heating. VMUFA, no. 1, 1986, 96-99. (RZFZA, 86/7L1123).
647. Kazaryan, A.K.; Timofeyev, Yu.P.; Fok, M.V. (FIAN). Anti-Stokes conversion of radiation in rare-earth ion-doped luminophosphors. Tsentry svecheniya redkozemel'nykh ionov v kristallofosforakh. FIAN. Trudy, no. 175, 1986, 4-65.
648. Kipen', A.A.; Proskura, A.I.; Yanushevskiy, N.I. (IFANUK). Radiative recombination in cadmium sulfide based ceramic at high levels of excitation. UFIZA, no. 8, 1986, 1172-1181.
649. Kokanyan, E.P.; Lebedeva, Ye.L.; Moldavskaya, V.M. (LGU). Pulsed photo-emf in impure lithium niobate crystals at high levels of excitation. FTVTA, no. 8, 1986, 2572-2574.
650. Kolosov, Ye.Ye.; Shilova, M.V.; Orlov, V.M. (GGU; GIFTI). Relaxation of optical transmission in Bi(sub12)SiO(sub20) single crystals. IVNMA, no. 7, 1986, 1222-1224.
651. Komov, V.I.; Sazonov, V.N. (FIAN). Diffusion of heavy impurities in a weakly nonequilibrium light gas selectively excited velocity-wise by laser radiation. FIAN. Preprint, no. 72, 1986, 30 p. (RZFZA, 86/7L1134).

652. Leonov, Ye.I.; Orlov, V.M.; Khabarov, S.E.; Petrikov, V.D.; Shcherbakov, A.G.; Muminov, I.; Khokha, L.G. (FTI). Preparation and properties of epitaxial layers of  $\text{Bi}(\text{sub}25)\text{FeO}(\text{sub}40)$ . IVNMA, no. 7, 1986, 1165-1169.
653. Marmur, I.Ya.; Oksman, Ya.A. (). Internal photoemission in electron-hole transitions. FTPPA, no. 3, 1986, 486-489.
654. Mileva, G.M.; Pavlov, L.I. (). Third-order polarizability of ZnS at low temperature (in English). PSSAB, v. A92, no. 2, 1985, 603-607. (RZFZA, 86/7L1044).
655. Naboykin, Yu.V.; Ogurtsova, L.A.; Pyshkin, O.S.; Tsekhomskiy, V.A. (FTINT). Temperature studies on the optical properties of silver halide photochromic glasses under pulsed laser activation. UFIZA, no. 6, 1986, 836-841.
656. Nagli, L.Ye.; Stan'ko, N.G.; (). Upper excited states in activated alkali-halide crystals. OPSPA, vol. 61, no. 2, 1986, 325-330.
657. Orlov, V.M.; Shilova, M.V.; Kolosov, Ye.Ye. (). Optical absorption in  $\text{Bi}(\text{sub}12)\text{SiO}(\text{sub}20)$  single crystals doped by chromium or nickel. IVNMA, no. 3, 1986, 507-508. (RZFZA, 86/7L373).
658. Pirags, I.Ya.; Tamanis, M.Ya.; Ferber, R.S. (). Determination of the total cross-section for  $\text{K}(\text{sub}2)[\text{B}(\text{sup}1)\text{Pi}(\text{sub} u), v', J'(\text{sup}1)]$  deactivation during collisions with potassium and inert gas atoms. OPSPA, vol. 61, no. 1, 1986, 29-32.
659. Piryatinskiy, Yu.P.; Zhukov, V.D. (IFANUK). Luminescence of pentazene crystals. UFIZA, no. 8, 1986, 1197-1200.
660. Posudin, Yu.I. (USKhA). Determining the forward diffusion constants for certain dyes by post-bleaching fluorescence restoration. UFIZA, no. 8, 1986, 1181-1184.
661. Ryumtsev, Ye.I.; Agafonov, M.A.; Kovshik, A.P. (LGU). Molecular mechanism in the dispersion of the Kerr effect in the isotropic phase of nematics. KRISA, no. 4, 1986, 742-746.

662. Semak, D.G.; Kolb, A.A.; Mikla, V.I.; Yurik, I.I. (UzhGU). Effect of temperature on the photostructural changes of AsSe layers. UFIZA, no. 5, 1986, 672-675.
663. Semak, D.G.; Mikla, V.I.; Sklyankin, A.V. (UzhGU). Photoinduced changes in the parameters of deep levels in layers of chalcogenide glasses. UFIZA, no. 8, 1986, 1262-1266.
664. Shmelev, G.M.; Nguyen Khong Shon; Shreder, R. (KiGU). Current mechanism in the onset of anisotropic photoconductivity in p-type semiconductors. FTPPA, no. 2, 1986, 370-372.
665. Tomchuk, P.M.; Levshin, A.Ye. (IFANUK). Free carriers in fields of coherent light beams. UFIZA, no. 7, 1986, 982-990.
666. Vabnits, Kh.; Gaysenok, V.A.; Slobodyanyuk, A.I.; Shubert, D. (). Kinetics of short-wave luminescence and energy cumulation in rhodamine 6G solutions. OPSPA, vol. 61, no. 2, 1986, 313-317.
667. Vasil'yeva, L.V.; Il'inova, T.M.; Cherdyntseva, G.A. (MGU). Saturation effect in photoexcited degenerate semiconductors. VMUFA, no. 2, 1986, 46-50. (RZFZA, 86/8L1025).
668. Zavodovskiy, A.G.; Bolotov, A.A. (TyuGU). Phase study on the vibrational relaxation of CO<sub>2</sub> molecules at the surface of a BaF<sub>2</sub> crystal. IVUFA, no. 7, 1986, 49-53.
669. Zelenskiy, A.N.; Kokhanovskiy, S.A.; Polushkin, V.G.; Vishnevskiy, K.N. (IYAIAN). Anomalous effects in charge transfer processes of a proton beam in a dense sodium target, induced by resonance 3S-3P laser radiation. ZFPRA, vol. 44, no. 1, 1986, 21-23.
670. Zon, B.A.; Kupersmidt, V.Ya.; Pakhomov, G.V.; Urazbayev, T.T. (TashPI). Change in magnetization of yttrium orthoferrite by neodymium laser radiation. IUZFA, no. 4, 1986, 53-56.

### 3. Laser Spectroscopy

671. Achilov, M.F.; Kasymdzhanov, M.A.; Trunilina, O.V.; Khabibullayev, P.K. (). Structural luminescence of disordered matter and the Rayleigh line wing. DANUA, no. 10, 1985, 26-28. (RZFZA, 86/7L502).
672. Adiks, T.G.; Vinogradova, A.A.; Malkov, I.P. (). Measurement of water vapor line parameters in the 5.8  $\mu$ m range of tunable diode lasers. ZPSBA, vol. 45, no. 2, 1986, 194-198.
673. Adkhamov, A.A.; Anik'yev, A.A.; Umarov, B.S.; Umarov, M. (FTIANTadzh). Using isofrequency Raman scattering to determine the relaxation time of the order parameter of crystals near phase transition points. DANKA, v. 286, no. 3, 1986, 606-610.
674. Akanayev, B.A.; Zhanuzakov, M.G. (). Determining the frequencies of collisions between electrons and plasma particles by transient anti-Stokes Raman spectroscopy. IAKFB, no. 2, 1986, 83-88. (RZFZA, 86/8G261).
675. Anoshin, A.N.; Kozlova, N.V.; Shubina, N.N. (NIFKhI). Raman spectra of 1,4- and 1,8-dioxy-9,10-anthraquinone. ZFKHA, no. 8, 1986, 2083-2085.
676. Aripov, M.M.; Turlibekov, T.; Yusupov, R.A. (TashGU). Solving a vibrational spectroscopy problem by means of a boundary value problem. IUZFA, no. 4, 1986, 51-53.
677. Avetisyan, V.A.; Minasyan, V.V.; Nazaryan, Ye.Kh. (). Study on the spectral characteristics of luminescence in aqueous solutions of rhodamine 6G with carbamide additive, excited by the second harmonic of a YAG:Nd laser. DANAA, no. 2, 1985, 82-84. (RZFZA, 86/7L451).
678. Aytiyeva, G.T.; Bessolov, V.N.; Volkov, A.S.; Yevstropov, V.V.; Kiselev, K.V.; Kochiyev, G.G.; Lipko, A.L.; Tsarenkov, B.V. (FTI). Interface luminescence of an n-GaAs/n-GaAlAs heterostructure produced by liquid epitaxy. FTPPA, no. 7, 1986, 1313-1317.
679. Balebanov, V.; Zakharov, A.; Linkin, V. (IKI). Project "PHOBOS": The mysterious moons of Mars. SCUSD, no. 4, 1986, 3-12.

680. Bayev, V.M.; Dubov, V.P.; Kireyev, A.N.; Sviridenkov, E.A.; Toptygin, D.D.; Yushchuk, O.I. (FIAN). The use of lasers utilizing F(subA) (II) color centers in KCl:Li crystals by an intracavity laser spectroscopy technique. KVEKA, no. 8, 1986, 1708-1710.
681. Bazhin, N.M.; Gritsan, N.P.; Korolev, V.V.; Kamysan, S.V. (IKhKG). Quenching of the fluorescence and phosphorescence of phenanthrene by oxidation in a solid matrix. KHFID, no. 8, 1986, 1037-1043.
682. Bedilov, M.R.; Tsoy, T.T. (IYaFANUz). Energy spectra of ions formed under the action of laser radiation on impure molybdenum. IUZFA, no. 4, 1986, 82-83.
683. Bel'tyukova, S.V.; Poluektov, N.S.; Nazarenko, N.A. (FKhI). Relationship of the intensity of absorption bands corresponding to supersensitive transitions in lanthanide ions, with their quantum mechanical characteristics. UFIZA, no. 7, 1986, 978-982.
684. Belousov, M.V.; Leonov, Ye.I.; Shcherbakov, A.G. (). Local vibrations of silicon isotopes in Bi(sub12)SiO(sub20) crystals. FTVTA, no. 2, 1986, 598-600. (RZFZA, 86/7L410).
685. Belyy, N.M.; Bobyr', A.V.; Gorban', I.S.; Gubanov, V.A. (KGU). Phonon spectrum and symmetry of vibrational modes in beta-HgI(sub2) crystals. UFIZA, no. 8, 1986, 1161-1172.
686. Bondar', Ye.A. (). Role of size dependencies of the optical characteristics of small metal particles in giant Raman scattering phenomena. OPSPA, v. 60, no. 3, 1986, 507-510.
687. Bukhmarina, V.N.; Dobychin, S.L.; Predtechenskiy, Yu.B.; Shklyarin, V.G. (GIPKh). Infrared and Raman spectra of ZrF(sub4) and HfF(sub4) molecules isolated in matrices of Ne and Ar. ZFKHA, no. 7, 1986, 1775-1777.
688. Bunkin, A.F.; Galumyan, A.S.; Mal'tsev, D.V.; Surskiy, K.O. (IOF). Four-photon polarization Raman spectroscopy for the remote detection of hydrocarbons in water. KVEKA, no. 7, 1986, 1317-1318.
689. Burakov, V.S.; Zhukovskiy, V.V.; Isayevich, A.V.; Orekhova, V.P.; Sevast'yanov, B.K.; Shkadarevich, A.P. (IFANB). Use of an alexandrite laser for intracavity spectroscopy. DBLRA, no. 6, 1986, 504-507.

690. Byk, A.P.; Voropay, Ye.S.; Gusenkov, S.N.; Kolesnikov, V.N.; Rovinskiy, V.V.; Svechnikov, V.A.; Chernyavskiy, A.F. (FIAN). Automation of experiments in nonlinear spectroscopy. FIAN. Preprint, no. 61, 1986, 21 p. (RZFZA, 86/8L595).
691. Chukin, G.D.; Mikhaylov, V.I.; Samgina, T.Yu.; Radchenko, Ye.D.; Nefedov, B.K.; Maslova, A.A. (). Raman spectra of Ni-Mo compounds on various modifications of  $\text{Al}(\text{sub}2)\text{O}(\text{sub}3)$ . ZPSBA, vol. 45, no. 1, 1986, 75-79.
692. Danchuk, V.D.; Tsyashchenko, Yu.P. (). Dynamics of local vibrations in mixed  $\text{ReO}(\text{sup } -)(\text{sub}4)$  anion-doped KI:KBr crystals. UFIZA, no. 5, 1986, 694-698.
693. Doktorov, Ye.V.; Man'ko, V.I. (FIAN). Synchrotron radiation and vibronic structure of polyatomic molecular spectra [including Raman spectral]. Kvantovaya mekhanika i statisticheskiye metody. FIAN. Trudy, no. 173, 1986, 238-251.
694. Gladushchak, V.I.; Moshkalev, S.A.; Razdobarin, G.T.; Shreyder, Ye.Ya. (FTI). Coherent sources of vacuum ultraviolet radiation. ZTEFA, no. 8, 1986, 1441-1471.
695. Gladyshchuk, A.A.; Nikitenko, V.A.; Parashchuk, V.V.; Yablonskiy, G.P.; Markov, Ye.V.; Smirnov, V.V. (IFANB). Streamer discharges in ZnO single crystals. IFANB. Preprint, no. 412, 1986, 28 p. (RZFZA, 86/7N399).
696. Golubev, G.P.; Zhukov, Ye.A. (VNIIMS). Study on the behavior of the  $\text{I}(\text{sub } S)$  line in CdSe. FTVTA, no. 8, 1986, 2578-2580.
697. Gorban', I.S.; Gubanov, V.A.; Belyy, N.M.; Salivon, G.I.; Bobyr', A.V. (). Multiphoton resonance Raman scattering in  $\text{PbI}(\text{sub}2)$  and  $\text{HgI}(\text{sub}2)$  layered crystals. DUKAB, no. 1, 1986, 42-44. (RZFZA, 86/7L411).
698. Govorkov, S.V.; Zadkov, V.N.; Koroteyev, N.I.; Shumay, I.L. (MGU). Transformation of the optical phonon spectrum of silicon under the influence of high-power picosecond laser pulses. ZFPRA, vol. 44, no. 2, 1986, 98-100.
699. Grabar, A.A.; Vysochanskiy, Yu.M.; Furtsev, V.G.; Rizak, V.M.; Slivka, V.Yu. (UzhGU). Raman scattering in  $\text{Sn}(\text{sub}2)\text{P}(\text{sub}2)\text{S}(\text{sub}6)$  ferroelectrics in the phase transition region. UFIZA, no. 6, 1986, 908-914.

700. Kirillov, S.A.; Gorodyskiy, A.V. (IONKhanUkr). Ion dynamics of melted lithium nitrate in the picosecond time interval. DANKA, v. 287, no. 1, 1986, 162-164.
701. Knyazev, A.A. (). Coherent active spectroscopy using surface electromagnetic waves in the microwave range [and laser]. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 106-110. (RZRAB, 86/8Ye889).
702. Kolerov, A.N. (). Alexandrite laser spectrum analyzer for the diagnostics of gases and plasma. ZPSBA, vol. 45, no. 1, 1986, 133-136.
703. Kop'yev, P.S.; Kulakovskiy, V.D.; Mel'tser, B.Ya.; Shepel', B.N. (IFTT). IntrabARRIER recombination radiation of GaAs-Al(sub0.4)Ga(sub0.6) multilayer structures with quantum wells. FTPPA, no. 7, 1986, 1184-1189.
704. Kozintsev, M.S. (). Measurement of diffuse reflection spectral coefficients with the aid of a reflectometer with a mirror cylindrical concentrating system. IZTEA, no. 7, 1986, 27-29.
705. Lyudchik, A.M.; Timoshenko, T.N.; Titkov, Ye.F. (). Study on band contours of fully symmetric vibrations in the Raman spectra of uranyl nitrate compounds. ZPSBA, v. 44, no. 2, 1986, 268-271.
706. Martynovich, Ye.F.; Tokarev, A.G.; Zilov, S.A. (). Polarized luminescence in visible and infrared spectral ranges in alpha-Al(sub2)O(sub3) color centers. OPSPA, vol. 61, no. 2, 1986, 338-341.
707. Masterov, V.F.; Zakharenkov, L.F.; Mal'tsev, Yu.V.; Savel'yev, V.P. (LPI). High-resolution optical spectra of iron-doped indium-phosphide crystals. FTPPA, no. 8, 1986, 1524-1527.
708. Pazyuk, Ye.A.; Moskvitina, Ye.N.; Kuzyakov, Yu.Ya. (MGU). Vibrational analysis of the (sup4)Pi-(sup4)Sigma electron transition in the MoN molecule. VINITI. Deposit, no. 2270-V, 2 Apr 1986, 14 p. (RZFZA, 86/7L220).
709. Pirogov, V.G.; Sokolina, V.A.; Fedorov, M.V.; Khurgin, Yu.I.; Tserevitinova, N.G.; Chikishev, A.Yu. (MGU). Automated system for recording Raman spectra of globular proteins. VMUFA, no. 2, 1986, 56-58. (RZFZA, 86/8L584).



710. Raytsimring, A.M.; Samoylova, R.I.; Tsvetkov, Yu.D. (IKhKG). Investigation of distribution functions by an electron spin echo method according to spacings in vapors of paramagnetic centers with long periods of spin-lattice relaxation. KHFID, no. 8, 1986, 1080-1084.
711. Rericha, R.; Zdrazil, M. (). IR spectra of deuterated propene analogs of Zeise's salt (in English). CCCCA, no. 12, 1985, 2647-2655. (RZFZA, 86/7L209).
712. Rudnitskiy, A.L.; Studenikin, Yu.Ye. (). Automated multichannel laser optoacoustic spectrometer. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 85-91. (RZRAB, 86/8Ye754).
713. Samartsev, V.V.; Naboykin, Yu.V.; Silayeva, N.B. (FTINT). Third All-Union Symposium on Light Echo and Coherent Spectroscopy, Khar'kov, 1-4 Oct 1985. KVEKA, no. 7, 1986, 1530-1534.
714. Sapozhnikov, M.N. (). Model calculations of luminescence spectra for impurity centers in a solid under monochromatic excitation. OPSPA, vol. 61, no. 2, 1986, 331-337.
715. Simashkevich, A.V.; Adib, N.; Koval', A.V.; Koshchug, O.S.; Sherban, D.A. (). Modulation of photoluminescence spectra in ITO-nCdTe structures. Opticheskiye svoystva poluprovodnikov i dielektrikov: Fizicheskiye nauki. Kishinev, Shtiintsa, 1986, 65-68. (RZFZA, 86/7N496).
716. Travnikov, V.V. (FTI). Luminescence of surface polaritons in CdS crystals. ZFPRA, vol. 44, no. 3, 1986, 133-136.
717. Vakulenko, Yu.A.; Gorban', I.S.; Gubanov, V.A.; Ivanova, L.M.; Pletyushkin, A.A. (). Low-temperature photoluminescence in cubic SiC poly- and single crystals. UFIZA, no. 3, 1986, 344-347. (RZFZA, 86/8L472).
718. Vasil'yev, A.F.; Gushanskaya, N.Yu.; Drozdov, B.G.; Zhizhin, G.N.; Silin, V.I.; Tsvetkov, V.A.; Shuyskiy, A.A.; Yakovlev, V.A. (ISAN). Study on polycrystal beryllium by surface electromagnetic wave and optoacoustic spectroscopy. ISAN. Preprint, no. 10, 1986, 16 p. (RZFZA, 86/8L418).

- 719. Volkov, A.A.; Goncharov, Yu.G.; Kozlov, G.V.; Mirzoyants, G.I.; Prokhorov, A.M. (IOF). Regularities of frequency and temperature behavior of the dynamic conductivity of superionic conductors. DANKA, vol. 289, no. 4, 1986, 846-850.
- 720. Yesayan, G.M.; Kalaydzidis, O.V.; Rubin, L.B. (NIIYaF). Picosecond spectroscopy of intermolecular proton phototransfer. KVEKA, no. 7, 1986, 1442-1450.
- 721. Zav'yalov, V.V.; Smol'yaninov, I.I. (IFP). Photoresonance of electrons, localized on surfaces of solid hydrogen. ZFPRA, vol. 44, no. 3, 1986, 142-144.

J. BEAM-TARGET INTERACTION

1. Miscellaneous Targets

- 722. Agafonov, V.A.; Geda, Ya.M.; Dlugunovich, V.A.; Snopko, V.N.; Sukhanov, Ya.A. (). Measurement of the temperature dependence of the reflection coefficients of getinaks [Soviet term for micarta, a plastic insulator] heated by CO<sub>2</sub> laser radiation. ZPSBA, vol. 45, no. 1, 1986, 25-30.
- 723. Antonova, G.F.; Moryashchev, S.F.; Startsev, A.A.; Mikheyev, A.Yu.; Tikhomirov, A.V. (). Using mirror scanners for surface processing by CO<sub>2</sub> laser. EOBA, no. 1, 1986, 87-90. (RZRAB, 86/8Ye859).
- 724. Belozertseva, V.I.; Kobyl'yakov, V.A.; Panchenko, L.N.; Bazakutsa, V.A. (). Study on growth processes of TiSbS(sub2) compound films under laser vaporization. PFKMD, no. 3, 1986, 83-88. (RZFZA, 86/8Ye597).
- 725. Bostanjoglo, O.; Endruschat, E. (). Kinetics of laser-induced crystallization of amorphous germanium films (in English). PSSAB, v. A91, no. 1, 1985, 17-28. (RZFZA, 86/7Ye1095).
- 726. Bunkin, F.V.; Grandberg, K.I.; Luk'yanchuk, B.S.; Perevalova, E.G.; Shafeyev, G.A. (IOF). Laser deposition of a metal from triphenylphosphine complexes of univalent gold. KVEKA, no. 7, 1986, 1321-1322.
- 727. Christall, K.D.; Schulz, U.; Winkler, R. (). Self-sealing inscription bearer. Patent GDR, no. 225250, 24 Jul 1985. (RZRAB, 86/8Ye861).
- 728. Gavrichkov, S.A.; Kononov, V.P. (IFSOAN). Molecular-beam and laser sputtering of films. Technology and possible applications. IFSOAN. Preprint, no. 378-F, 1986, 41 p. (RZFZA, 86/8Ye560).

729. Gerasimenko, P.V.; Mazarchenkov, V.A.; Suprun, A.D.; Fedorchenko, A.M. (KGU; VIIM). Modeling the dynamics of a gas phase which is vaporized from a condensed phase surface under the action of pulses of concentrated radiation. UFIZA, no. 5, 1986, 716-719.
730. Golubenko, G.A.; Maslennikov, V.L.; Sychugov, V.A. (IOF). Formation of a longitudinal microrelief on a surface of a transparent body under the action of laser radiation. ZTEFA, no. 8, 1986, 1637-1640.
731. Golubenko, G.A.; Sychugov, V.A.; Tishchenko, A.V. (IOF). Formation of periodic microrelief on the surface of layered structures under the action of laser radiation. IOF. Preprint, no. 333, 1986, 13 p. (RZFZA, 86/7L889).
732. Gureyev, D.M. (FIANKuy). Effect of laser pulse temporal shape on the thickness of a laser-strengthened layer. KVEKA, no. 8, 1986, 1716-1718.
733. Johansen, H.; Bartsch, H.; Exner, H.; Zscherpe, G. (). Characterization of the intensity distribution in a single laser spot applied to the annealing of ion-implanted silicon (in English). CRTED, no. 1, 1986, 79-87. (RZFZA, 86/8Yel094).
734. Luck, K.J.; Mueller, H. (). Device for controlling the parameters of laser materials processing routines. Patent GDR, no. 227364, 18 Sep 1985. (RZRAB, 86/8Yel835).
735. Orlov, V.Yu.; Potapov, V.K. (NIFKHI). Unit for the investigation of laser sublimation of low temperature matrices. PRTEA, no. 4, 1986, 191-192.
736. Pisarenko, G.S.; Leonets, V.A.; Pisarenko, V.G. (IGUkrAN). Effect of thermal shock and shockwaves on the stability of the expected output of gravitational radiation from single crystals irradiated by coherent radiation pulses. IGUkrAN. Preprint, no. not given, 1985, 27 p. (RZFZA, 86/8Yel085).
737. Sidorin, Yu.V. (IPMe). State of a medium (gas) and its evolution in cracks formed in a polymer by a series of laser pulses. VINITI. Deposit, no. 2639-V, 11 Apr 1986, 54 p. (RZFZA, 86/8Yel087).
738. Sotnikov, V.T.; Dobrotvorskiy, S.S.; Zapechel'nyuk, E.F. (KhAI). Threshold effects in the emission of charged particles from a KCl surface under the action of laser radiation. UFIZA, No. 5, 1986, 744-749.

739. Svitlinets, V.P.; Dovgoshey, N.I.; Anikeyev, B.V.; Ivanitskiy, V.P. (). Structure of  $\text{Cd}(\text{sub}4)\text{GeS}(\text{sub}6)$  films. IVNMA, no. 3, 1986, 381-383. (RZFZA, 86/8Ye596).
740. Urbank, P.; Wieser, E.; Haessner, A.; Kaufmann, Ch.; Lippmann, H.; Melzer, V. (). Formation of  $\text{MoSi}(\text{sub}2)$  by light pulse irradiation (in English). PSSAB, v. A90, no. 2, 1985, 463-468. (RZFZA, 86/7Ye1102).
741. Vigant, Yu.V.; Kovalev, A.A.; Kulikov, O.L.; Makshantsev, B.I.; Pilipetskiy, N.F.; Sukhareva, Ye.A. (IPMe). Formation of periodic structures on the surface of solids induced by laser radiation. ZETFA, vol. 91, no. 1, 1986, 213-219.
742. Vlokh, O.G.; Klepach, N.I.; Kushnir, O.S.; Shopa, Ya.I. (LvGU). Electrogyration study on phase transition in crystals of the KDP group. UFIZA, no. 8, 1986, 1228-1232.
743. Wiederhold, G.; Kramer, W.; Sauer, E.; Heumann, E.; Kleinschmidt, J.; Vogler, K.; Zschocke, W.; Ruehle, K.; Jeworrek, G.; Steidler, F. (). Method for laser inscribing and marking of plastic and elastic materials. Patent GDR, no. 231161, 18 Dec 1985. (RZRAB, 86/8Ye860).

## 2. Metal Targets

744. Alimov, D.T.; Yedvabnyy, I.V.; Luk'yanchuk, B.S.; Khabibullayev, P.K. (). Stimulated ignition of metals in an oxidizing atmosphere by laser heating. FKOMA, no. 4, 1986, 8-12.
745. Arutyunyan, R.V.; Baranov, V.Yu.; Bol'shov, L.A.; Dolgov, V.A.; Malyuta, D.D.; Mezhevov, V.S.; Pis'mennyy, V.D.; Semak, V.V. (IAE). Mechanisms of the melt removal of metals by short laser pulses. DANKA, vol. 289, no. 4, 1986, 863-866.
746. Bagmut, A.G.; Pugachev, A.T.; Sokol, A.A.; Kosevich, V.M. (). Diffraction effects and thermal expansion from the surface structure of epitaxial gold films. PFKMD, no. 2, 1986, 127-134. (RZFZA, 86/8Ye578).
747. Belikov, Yu.I.; Medres, B.S.; Solov'yev, A.A.; Teploukhov, V.L.; Isakov, V.V. (). Experimental study on changes in magnetic properties of tool steels during laser surface hardening. PFKMD, no. 4, 1986, 134-135. (RZRAB, 86/8Ye853).

748. Berzina, I.G.; Buryakin, A.V.; Gusev, E.B.; Narovskaya, N.P.; Fedina, G.N. (MIIT). Hardening zones obtained under pulsed laser boronizing. IVUFA, no. 7, 1986, 105-107.
749. Bondarev, A.N.; Nepokoychitskiy, A.G.; Astashenko, S.G.; Gridnev, N.S. (). Destruction of copper specimens with oxide and metal coatings by laser radiation. ZPSBA, vol. 45, no. 1, 1986, 30-35.
750. Bostanjoglo, O.; Endruschat, E.; Givargizov, Ye.I.; Tornow, W. (). Metal-assisted grain growth in beam crystallized amorphous Ge/Au films (in English). PSSAB, v. A92, no. 1, 1985, K1-K4. (RZFZA, 86/8Yell06).
751. Campean, C.D.; Mihailescu, I.N. (). Interaction between high-power pulsed CO2 laser radiation and metal targets in a vacuum. SCEFA, no. 2, 1986, 136-151. (RZRAB, 86/8Ye909).
752. Dite, A.F.; Filin, A.I. (IFTT). Picosecond time dynamics of optical transmission during the destruction of thin aluminum films by ultrashort light pulses. PZTFD, no. 14, 1986, 853-858.
753. Dykhne, A.M.; Rysev, B.N. (). Simultaneous excitation of surface acoustic and electromagnetic waves under the thermoelastic action of laser radiation scanning the surface of a metal. IANFA, no. 3, 1986, 609-613. (RZFZA, 86/8Yell04).
754. Geller, M.A.; Gorelik, G.Ye.; Pavlyukevich, N.V.; Parnas, A.L. (). Calculation of temperature and thermal stresses during the quench-hardening of steel by laser and electron beams. FKOMA, no. 4, 1986, 31-35.
755. Goncharov, V.K.; Karaban', V.I. (). Variation of coefficients of absorption and scattering along a laser erosion flame. ZPSBA, vol. 45, no. 1, 1986, 22-25.
756. Gubenko, S.I. (). Changes in nonmetallic impurities under laser action and the quenching of steel. FKOMA, no. 4, 1986, 16-22.
757. Gureyev, D.M.; Zolotarevskiy, A.V.; Mednikov, S.I. (). Heat treatment of high-speed steel by a continuous laser radiation source of variable shape. FKOMA, no. 4, 1986, 23-26.

758. Katulin, V.; Gureyev, D. (). Laser hardening of parts. TVOOB, no. 8, 1986, 4.
759. Markevich, M.I.; Mukha, V.A.; Chaplanov, A.M. (). Quenching effects in thin films of nickel under pulsed heat treatment. FKOMA, no. 4, 1986, 27-30.
760. Reichel, G.; Rankewitz, W.; Tischler, K.; Lehmann, B. (). Device for laser cutting of large-area sheet metal. MTECA, no. 4, 1986, 174-176, 146. (RZRAB, 86/7Ye589).
761. Uglov, A.A.; Grebennikov, V.A.; Panayetov, V.G.; Ignat'yev, M.B. (). Control of the porosity of powder metallurgy products with the aid of laser radiation. FKOMA, no. 4, 1986, 41-43.
762. Uglov, A.A.; Smurov, I.Yu.; Karaseva, L.V. (). Melt rate of a body under the action of variable-power heat fluxes. FKOMA, no. 4, 1986, 4-7.
763. Vedenov, A.A.; Gladush, G.G.; Drobyazko, S.V.; Pavlovich, Yu.V.; Senatorov, Yu.M. (IAE). Physical relationships of metal treatment by repetitively pulsed CO<sub>2</sub> laser radiation. KVEKA, no. 7, 1986, 1473-1477.
764. Wilcke, B.; Richter, K.; Schroeder, H. (). Method for structural selective deposition of materials. Patent GDR, no. 227738, 25 Sep 1985. (RZRAB, 86/8Ye855).
765. Zemskiy, S.V.; Makashova, L.S.; Chekanova, N.T. (). Effect of pulsed laser radiation on the rearrangement of carbon in titanium. FKOMA, no. 4, 1986, 13-15.
766. Zhavoronkov, V.I. (MFTI). Oscillographic photorecording of submicrosecond shock processes in metals [under laser irradiation]. VINITI. Deposit, no. 3218-V, 6 May 1986, 63-67. (RZRAB, 86/8Ye916).

### 3. Dielectric Targets

767. Smirnov, V.N. (GOI). Role of exoelectron emission in the development of optical breakdown at a dielectric surface. OPMPA, no. 7, 1986, 1-4.

#### 4. Semiconductor Targets

768. Armenski, S.; Stanev, I.; Kolev, N.; Tsenkulovska, N. (). Determination of the parameters of damage to glassy chalcogenide semiconductors under laser action and computer study on their effects (in Bulgarian). Godishnik na visshite uchebni zavedeniya. Tekhnicheski fizika, no. 1, 1984(1985), 151-158. (RZFZA, 86/7Yel100).
769. Bankov, V.N.; Dneprovskiy, V.G.; Zakharchenko, I.V.; Kaydashev, Ye.M. (). Structure of cadmium sulfide thin films deposited by laser sputtering. ISTVA, no. 4, 1985, 54-56. (RZFZA, 86/7Ye200).
770. Chechenin, N.G.; Burdel', K.K.; Dzhidzhoyev, M.S.; Zenkov, Yu.V.; Kashkarov, P.K.; Platonenko, V.T.; Popov, V.K. (). Channeling study on laser induced damage to GaP. IANFA, no. 4, 1986, 812-815. (RZFZA, 86/8Yel100).
771. Edelman, P.; Kontkiewicz, A.M. (). Influence of pulse shape on the dynamics of pulsed laser annealing of GaAs (in English). ETNTA, no. 3-4, 1984(1985), 13-23. (RZFZA, 86/8Yel097).
772. Edelman, P.; Kontkiewicz, A.M.; Andrzej, M. (). Determination of threshold power for semiconductor melting during laser annealing (in English). ETNTA, no. 3-4, 1984(1985), 25-33. (RZFZA, 86/8Yel098).
773. Kashkarov, P.K.; Kiselev, V.F. (). Nonthermal processes in semiconductors under laser irradiation. IANFA, no. 3, 1986, 435-439. (RZFZA, 86/7Yel093).
774. Vul', A.Ya.; Petrosyan, P.G.; Vul', S.P. (FTI). Correlated distribution of impurities in undoped epitaxial layers of  $\text{GaAs}(1-x-y)\text{Sb}(x)\text{P}(y)$  solid solutions. FTPPA, no. 7, 1986, 1227-1233.
775. Yershov, V.I.; Givargizov, Ye.I.; Zakharov, A.A. (IKAN). Preparation of gallium arsenide films on insulators by means of artificial epitaxy. IVNMA, no. 7, 1986, 1206-1208.

# K. PLASMA GENERATION AND DIAGNOSTICS

776. Afrosimov, V.V.; Bobashev, S.V.; Golubev, A.V.; Simanovskiy, D.M.; Shmayenok, L.A. (FTI). Radiation of a recombining beryllium laser plasma in the far expansion zone. ZETFA, vol. 91, no. 2, 1986, 485-492.
777. Anuchin, M.G.; Borodin, V.G.; Gorokhov, A.A.; D'yakonov, G.P.; Zapysov, A.L.; Izrailev, I.M.; Komarov, V.M.; Kryuchenkov, V.B. (). Compression of dual-layer targets with a DT-gas and neon at the installation "Progress". ZFPRA, vol. 44, no. 2, 1986, 71-74.
778. Babichev, V.N.; Vysikaylo, F.I.; Golubev, S.A. (). Experimental confirmation of the existence of parameter discontinuities of a gas discharge plasma. PZTFD, no. 16, 1986, 992-995.
779. Babin, A.A.; Murav'yev, I.I.; Shatova, L.D.; Yancharina, A.M. (SFTI). Excitation of cadmium ions in an expanding He-Cd plasma. IVUFA, no. 7, 1986, 35-39.
780. Baksht, Ye.Kh.; Bazhenov, G.P.; Ladyzhenskiy, O.B.; Mesyats, G.A.; Osipov, V.V. (ISE). Method of the pulsed creation of a dense plasma in high pressure metal vapors. PZTFD, no. 15, 1986, 943-947.
781. Basov, N.G.; Gus'kov, S.Yu.; Rozanov, V.B. (FIAN). Effect of the transfer of energy by recoil nuclei during scattering of thermonuclear neutrons in a dense bounded plasma. ZFPRA, vol. 44, no. 4, 1986, 166-168.
782. Basov, N.G.; Vygovskiy, O.B.; Gus'kov, S.Yu.; Il'in, D.V.; Levkovskiy, A.A.; Rozanov, V.B.; Sherman, V.Ye. (FIAN). Plasma diagnostics under inertial confinement fusion conditions from the products of secondary thermonuclear reactions. FIPLD, no. 8, 1986, 916-926.
783. Bazylev, B.N.; Borovik, F.N.; Vergunova, G.A.; Rozanov, V.B.; Romanov, G.S.; Stanchits, L.K.; Stepanov, K.L.; Teterov, A.V. (FIAN). Radiative characteristics of a nonequilibrium laser plasma. FIAN. Preprint, no. 60, 1986, 48 p. (RZFZA, 86/7G89).
784. Belov, A.L.; Bunkin, F.V.; Yakovlenko, S.I. (IOF). Amplification of spontaneous emission without a resonator under recombination pumping of the active transition of multicharged ions. IOF. Preprint, no. 316, 1986, 23 p. (RZFZA, 86/7L988).



785. Borovskiy, A.V.; Korobkin, V.V.; Mukhtarov, Ch.K. (IOF). Transience of the active medium and estimation of prospects for spontaneous emission amplifiers with recombination pumping. IOF. Preprint, no. 17, 1986, 26 p. (RZFZA, 86/7L986).
786. Borovskiy, A.V.; Korobkin, V.V.; Mokrov, V.B.; Mukhtarov, Ch.K. (IOF). Gain in shortwave transitions of He-like ions. IOF. Preprint, no. 10, 1986, 32 p. (RZFZA, 86/7L987).
787. Borovskiy, A.V.; Korobkin, V.V.; Mokrov, V.B. (IOF). Derivation of gasdynamic equations for a multicharged optically thin plasma with a nonequilibrium ion composition. IOF. Preprint, no. 28, 1986, 20 p. (RZFZA, 86/8G108).
788. Bykovskiy, Yu.A.; Oblizin, A.N.; Kozyrev, Yu.P.; Kolesov, I.V.; Kutner, V.B.; Pasyuk, A.S.; Peklenkov, V.D.; Stetsenko, S.G.; Suvorov, K.G.; Uziyenko, D.A. (OIYaI). Emission of multicharged ions from a laser plasma in a B-vector magnetic field and their acceleration in the U-2000 cyclotron. OIYaI. Soobshcheniye, no. R9-86-3, 1986, 14 p. (RZFZA, 86/7G294).
789. Chirimanov, A.P. (GGU). Numerical modeling of transient processes in the formation of the energy spectrum and disintegration diagram of a laser erosion plasma in a vacuum. VINITI. Deposit, no. 2923-V, 22 Apr 1986, 10 p. (RZFZA, 86/8G101).
790. Donin, V.I.; Yersh, I.G.; Shapiro, D.A.; Yakovin, D.V.; Yatsenko, A.S. (IAESOAN). Ion sonic waves in a high-power ion laser plasma. IAESOAN. Preprint, no. 304, 1986, 21 p. (RZFZA, 86/8G30).
791. Gacek, A.; Rymarz, C. (). Transport phenomena in spherically symmetric laser fusion. Part 1. Kinetic model (in English). JTPHD, no. 1, 1985, 17-27. (RZFZA, 86/8L1101).
792. Gacek, A.; Rymarz, C. (). Transport phenomena in spherically symmetric laser fusion. Part 2. Shaped laser hypercompression of a DT pellet (in English). JTPHD, no. 1, 1985, 29-39. (RZFZA, 86/8L1102).

793. Gus'kov, S.Yu.; Danilov, A.Ye.; Zakharenkov, Yu.A.; Lebo, I.G.; Mikhaylov, Yu.A.; Rozanov, V.B.; Rupasov, A.A.; Sklizkov, G.V.; Fedotov, S.I.; Shikhanov, A.S. (FIAN). Optimizing the parameters of high-aspect targets for experiments on laser fusion at a laser energy level of 1-2 kilojoules. FIAN. Preprint, no. 49, 1986, 38 p. (RZFZA, 86/7L1126).
794. Kirkin, A.N.; Mirzoyan, R.G.; Mazharovksiy, A.M. (FIAN). X-radiation and electron temperature of a laser plasma produced by ultrashort pluses. FIPLD, no. 7, 1986, 860-865.
795. Knyazev, B.A.; Lebedev, S.V.; Mekler, K.I. (IYaFSOAN). Cloud of plasma with a given composition of elements very close to a surface in a vacuum. ZTEFA, no. 7, 1986, 1319-1328.
796. Krepelka, J. (). Classification of steady-state solutions to isothermal equations of hydrodynamics of a laser plasma with ponderomotive force under inclined incidence of p-polarized waves (in Czech). AUONA, no. 23, 1984, 217-224. (RZFZA, 86/7G96).
797. Nakhodkin, N.G.; Zykov, G.A.; Matveyev, V.T. (KGU). Localization and spike regime of ion emission by an expanding laser plasma. UFIZA, no. 7, 1986, 1017-1021.
798. Rozanov, V.B.; Shumskiy, S.A. (FIAN). Dependence of characteristics of fast electrons on parameters of laser irradiation. KVEKA, no. 8, 1986, 1545-1554.

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS NUMBER 84  
JULY - AUGUST 1986(U) DEFENSE INTELLIGENCE AGENCY  
WASHINGTON DC DIRECTORATE FOR SCI.. OCT 87

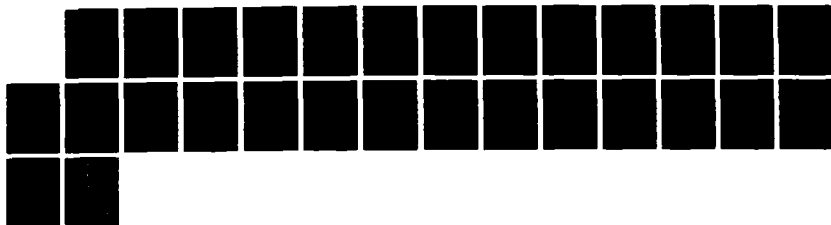
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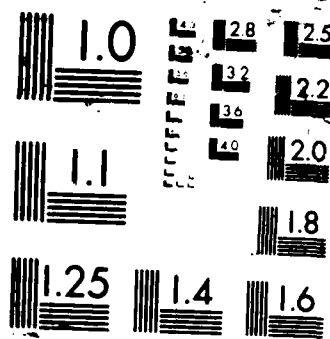
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### III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

799. Bykov, V.P.; Shepelev, G.V. (). Radiation from atoms near material objects. Various problems in quantum theory. Izlucheniye atomov blizi material'nykh tel. Nekotoryye voprosy kvantovoy teorii. Moskva, Nauka, 1986, 161 p. (RZFZA, 86/7L839).
800. Fomin, V.V. (auth); Makushkin, Yu.S. (ed). (). Molecular absorption in infrared windows of transparency. Molekulyarnoye pogloshcheniye v infrakrasnykh oknakh prozrachnosti. IOA. Novosibirsk, Nauka, 1986, 234 p.
801. Galanin, M.D. (ed). (FIAN). Luminescence centers of rare-earth ions in crystal phosphors. Tsentry svecheniya redkozemel'nykh ionov v kristallofosforakh. FIAN. Trudy, no. 175, 1986, 144 p.
802. Kochegurov, V.A. (ed). (). Digital and optodigital methods of image processing. Tsifrovyye i optiko-tsifrovyye metody obrabotki izobrazheniy. ToPI. Tomsk, 1985, 159 p. (RZFZA, 86/7A65).
803. Koshelev, V.N.; Chalyk, Yu.V. (). Lasers in abdominal surgery. Lazer v bryushnoy khirurgii. SGU. Saratov, 1985, 158 p. (KNLTA, 35/86, 32366).
804. Laser beams. Propagation in media and control of parameters. Lazernyye puchki. Rasprostraneniye v sredakh i upravleniye parametrami. KhaPI. Khabarovsk, 1985, 118 p. (RZFZA, 86/7L840).
805. Leont'yev, P.A.; Chekanova, N.T.; Khan, M.G. (). Laser surface processing of metals and alloys. Lazernaya poverkhnostnaya obrabotka metallov i splavov. Moskva, Metallurgiya, 1986, 144 p.
806. Manenkov, A.A. (ed). (IOF). Laser methods for studying defects in semiconductors and dielectrics. Lazernyye metody issledovaniy defektov v poluprovodnikakh i dielektrikakh. IOF. Trudy. Vol. 4, 1986, 153 p.
807. Minkov, B.I. (compiler). (). Effect of ionizing radiation on the optical and laser properties of YAG:Nd single crystals. Vliyaniye ioniziruyushchikh izlucheniye na opticheskiye i lazernyye svoystva monokristalov IAG:Nd. ONIITEKhim. Moskva, 1985, 88 p. (RZFZA, 86/7L945).

808. Mushinskiy, V.P. (ed). (). Optical properties of semiconductors and dielectrics. Physical sciences. Opticheskiye svoystva poluprovodnikov i dielektrikov: Fizicheskiye nauki. Kishinev, Shtiintsa, 1986, 134 p. (RZFZA, 86/7N413).
809. Photo and electric phenomena in semiconductors. Foto-i elektricheskiye yavleniya v poluprovodnikakh. IFANDag. Makhachkala, 1985, 168 p. (RZFZA, 86/8N441).
810. Sarzhevskiy, A.M. (). Optics. Vol. 2. Optika. Tom 2. Minsk, Universitetskoye, 1986, 319 p. (RZFZA, 86/8A52).
811. Sushchinskiy, M.M. (ed). (FIAN). Quantum mechanics and statistical methods. Kvantovaya mekhanika i statisticheskiye metody. FIAN. Trudy, no. 173, 1986, 256 p.
812. TarbeyeV, Yu.V. (ed). (). Problems of quantum metrology. All-Union Conference on Quantum Metrology and Fundamental Physical Constants, 1st, Leningrad, Dec 1982. Papers. Problemy kvantovoy metrologii. CVSKMFFK, 1st, Leningrad, Dec 1982. Materialy. Leningrad, Energoatomizdat, 1985, 75 p. (RZFZA, 86/7A40).
813. Tsvetkov, V.N. (). Rigid chain polymer molecules. Zhestkotsepnyye polimernyye molekuly. Leningrad, Nauka, 1986, 379 p. (RZFZA, 86/7I243).
814. Vetokhin, S.S.; Gulakov, I.R.; Pertsev, A.N.; Reznikov, I.V. (). Single-electron photodetectors. Odnoelektronnyye fotopriyemniki. 2nd edition revised and enlarged. Moskva, Energoatomizdat, 1986, 161 p. (RZFZA, 86/8L608).
815. World Congress of IMEKO [Internationales Messtechnische Konfoederation, International Measurement Confederation], 10th, Prague, 22-26 Apr 1985. (All in English). CWCIMEKO, 10th, Praha, 22-26 Apr 1985. Preprints. Praha, Dum techn. CSVTS, 1985. Vol. 2, 204 p. Vol. 4, 299 p. Vol. 12, 168 p. (RZFZA, 86/7A42-44).

#### IV. SOURCE ABBREVIATIONS

(Note: CTC = cover-to-cover translation available)

AKZHA	Akusticheskiy zhurnal (CTC)
APYCA	Acta physica et chemica. Szeged
ATPLB	Acta physica polonica. Series A
AUONA	Acta Universitatis Palackianae Olomucensis. Facultas rerum naturalium. Physica (Olomouc)
AVMEB	Avtometriya (CTC)
BITOA	Bild und Ton (East Berlin)
CCCCA	Collection of Czechoslovak Chemical Communications (Prague)
CKCFA	Ceskoslovensky casopis pro fysiku
CRTED	Crystal Research and Technology (East Berlin) (formerly Krystal und Technik)
CVSISIZl	Vsesoyuznoye soveshchaniye po ispol'zovaniyu sinkhrotonnogo izlucheniya
CVSKMFFK	Vsesoyuznoye soveshchaniye po kvantovoy metrologii i fundamental'nyim fizicheskim konstantam
CWCIMEKO	World Congress of IMEKO [Internationale Messtechnische Konfoederation, International Measurement Confederation]
DANAA	Akademiya nauk Armyanskoy SSR. Doklady
DANKA	Akademiya nauk SSSR. Doklady (CTC)
DANUA	Akademiya nauk Uzbekskoy SSR. Doklady
DBLRA	Akademiya nauk BSSR. Doklady
DUKAB	Akademiya nauk Ukrayns'koy RSR. Dopovidi. Seriya A. Fiziko-matematychni ta tekhnichni nauki

EKNTB	Elektronika (Warsaw)
EKVZA	Elektrosvyaz' (CTC)
ELKCA	Elektrotechnicky casopis
ELKKA	Elektrokhimii (CTC)
EOBMA	Elektronnaya obrabotka materialov (CTC)
ETFMB	Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika
ETNTA	Electron Technology (Warsaw)
EXPPA	Eksperimentelle Technik der Physik
FECAA	Fizika elementarnykh chastits i atomnogo yadra
FGRTA	Feingeraetetechnik
FIPLD	Fizika plazmy (Moskva, AN SSSR) (CTC)
FISZA	Fizikai szemle (Budapest)
FKOMA	Fizika i khimiya obrabotki materialov
FKSTD	Fizika i khimiya stekla (CTC)
FNTED	Fizika nizkikh temperatur (Kiyev) (CTC)
FTPPA	Fizika i tekhnika poluprovodnikov (CTC)
FTVDD	Fizika i tekhnika vysokikh davleniy (sbornik, Kiyev)
FTVTA	Fizika tverdogo tela (CTC)
FZSSA	Fizika zhidkogo sostoyaniya (sbornik, Kiyev)
GZKGA	Geodeziya i kartografiya (CTC)
IAAFA	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAFMA	Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk
IAKFB	Akademiya nauk Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk



IANFA	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya (CTC)
IFAOA	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana (CTC)
ISTVA	Severo-Kavkazkiy nauchnyy tsentr vysshey shkoly. Izvestiya. Yestestvennyye nauki (Rostov-na-Donu)
IUZFA	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IVNMA	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy (CTC)
IVUBA	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye (CTC)
IVUFA	Izvestiya vysshikh uchebnykh zavedeniy. Fizika (CTC)
IVUZH	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVYRA	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika (CTC)
IZTEA	Izmeritel'naya tekhnika (CTC)
JMKOA	Jemna mekhanika a optika
JTPHD	Journal of Technical Physics (Poland)
KFKKA	Kozponti fizikai kutato intezet kozlemenyek (Budapest)
KHFID	Khimicheskaya fizika (CTC)
KHVKA	Khimiya vysokikh energiy (CTC)
KNLTA	Knizhnaya letopis'
KRISA	Kristallografiya (CTC)
KRSFA	Kratkiye soobshcheniya po fizike (CTC)
KVEKA	Kvantovaya elektronika (journal, Moskva) (CTC)
LFSBA	Litovskiy fizicheskii sbornik (CTC)
LMSBA	Litovskiy matematicheskii sbornik (CTC)

LZSTA	Letopis' zhurnal'nykh statey
MEAUA	Meres es automatika
MTECA	Maschinenbautechnik (GDR)
NACHA	Nachrichtentechnik-Elektronik (GDR)
OPAPB	Optica applicata (Poland)
OPMPA	Optiko-mekhanicheskaya promyshlennost' (CTC)
OPSPA	Optika i spektroskopiya (CTC)
OTIZD	Otkrytiya, izobreteniya (formerly included in OIPOB)
PFKMD	Poverkhnost'. Fizika, khimiya, mekhanika (Moskva)
PITRA	Prace Instytutu tele- i radiotechnicznego (Warsaw)
PMAZB	Problemy matematicheskogo analiza (Leningrad)
PRSUB	Pribory i sistemy upravleniya (CTC)
PRTEA	Pribory i tekhnika eksperimenta (CTC)
PSSAB	Physica status solidi (A). Applied Research (GDR)
PSSBB	Physica status solidi (B). Basic Research (GDR)
PZTFD	Zhurnal tekhnicheskoy fiziki. Pis'ma (CTC)
RAELA	Radiotekhnika i elektronika (journal, Moskva) (CTC)
RATEA	Radiotekhnika (journal, Moskva) (CTC)
RFELB	Radio-Fernsehen-Elektronik
RRPQA	Revue Roumaine de Physique
RTKHA	Radiotekhnika (sbornik, Khar'kov)
RZFZA	Referativnyy zhurnal. Fizika
RZGFA	Referativnyy zhurnal. Geofizika
RZRAB	Referativnyy zhurnal. Radiotekhnika

SCEFA	Studii si cercetari de fizica
SCUSD	Science in the USSR (Moscow)
SOMEA	Sovetskaya meditsina
STALA	Stal'
SVETA	Svetotekhnika
TKTEA	Tekhnika kino i televideniya
TLKMA	Telekomunikacije (Yugoslavia)
TVOOB	Tekhnika i vooruzheniye (CTC)
UFIZA	Ukrainskiy fizicheskiy zhurnal (Russian language version) (CTC)
VABFA	Belorusskiy universitet. Vestnik. Seriya fiziko-tekhnicheskikh nauk
VBSFA	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
VEOFA	Vestnik oftal'mologii
VESCB	Voprosy elektroniki sverkhvysokikh chastot (sbornik, Saratov)
VMUFA	Moskovskiy universitet. Vestnik. fizika, astronomiya (CTC)
VNUKA	Akademiya nauk Ukrayns'koy RSR. Visnyk
WZTKA	Wissenschaftliche Zeitschrift der Technischen Hochschule Karl-Marx-Stadt, Chemnitz
ZETFA	Zhurnal eksperimental'noy i teoreticheskoy fiziki (CTC)
ZFKHA	Zhurnal fizicheskoy khimii (CTC)
ZFPRA	Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma (CTC)
ZNPPA	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii (CTC)
ZPSBA	Zhurnal prikladnoy spektroskopii (CTC)
ZTEFA	Zhurnal tekhnicheskoy fiziki (CTC)

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**TashPI**  
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 and Radioelectronics

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 Tomsk Polytechnic Institute

**TyuGU**  
 Tyumenskiy gos university  
 Tyumen State University

**UDN**  
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**USKhA**  
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 Uzhgorod State University

**VGU**  
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AFONSKIY A K	56	AYTIYEVA G T	73	BELOVOLOV M I	40
AFROSIMOV V V	84	AYUPOV B M	1	BELOZERTSEVA V I	78
AGAFONOV M A	71	AYVAZYAN YU M	15	BEL'TYUGOV V N	15
AGAFONOV V A	78			BEL'TYUKOVA S V	74
AGEYEV B G	51	BAARS G	40	BELYATSKIY A F	10
AGEYEV V P	13	BABENKO V A	49	BELYY N M	74,75
AKANAYEV B A	73	BABICHEV V N	84	BENDERSKIY V A	14
AKHMADZHANOV T	39	BABIN A A	84	BENDITSKIY A A	19
AKHMEDZHANOV I M	30	BABUKOVA M V	67	BEREGULIN YE V	68
AKHRAROV M	11	BACHMANN P	65	BEREZIN A A	49,64
AKOPYAN I G	62	BADZIAK J	9	BEREZIN I V	56
AKOPYAN R S	30	BAEBLER R	40	BEREZOVSKIY V V	51
AKTSIPETROV O A	26	BAGDASAROV KH S	67	BERGER N K	60
AKUL'SHIN A M	3	BAGDASAROV V KH	2	BERGMANN H	55
ALAVERTDIAN R B	21,30	BAGDASAR'YAN KH S	59	BERGMANN J	60
ALBRECHT H	9	BAGMUT A G	80	BERIK YE	6
ALEKSANDROV I V	29	BAKANOV L V	62	BERIK YE B	28
ALEKSANDROVICH K V	3	BAKAREV A YE	67	BERZINA I G	81
ALEKSEYEV V A	6	BAKHRAHOV S A	59	BESPALOV V G	28
ALEKSEYEV V I	34	BAKLUNOV YU A	40	BESSELOV V N	73
ALEXANDRESCU R	9	BAKSHT YE KH	84	BESSONOV YE G	34
ALIMOV D T	80	BAKUN A A	67	BETEROV I M	1
ALIPYIEVA YE A	36	BAKUT P A	54	BETIN A A	54
ALKHAZOV G D	59	BALAGUROV A YA	40	BETIN A L	54
AL'TSHULER G B	39	BALAKIREV V A	34	BEZHAN N P	3
AMMOISOV V V	55	BALEBANOV V	73	BIRMAN A YA	36
AMSTIBOVSKIY V	66	BALTRAMEYUNAS R	67	BISYARIN V P	51
ANDERS U	45	BANKOV V N	83	BISYARINA I P	51
ANDREYEV L N	17	BARANOV I N	13	BLUSCHKE A	40
ANDREYEV V A	21	BARANOV I YA	38	BLUSHKE A	40
ANDREYEV V M	39	BARANOV S A	17	BOBASHEV S V	84
ANDREYEV V P	17	BARANOV V V	8	BOBUCHENKO D S	52
ANDRUSHKO A I	67	BARANOV V YU	80	BOBYR' A V	74,75
ANDRUSHKO I I	45	BARANOVA I M	26	BODI S	40
ANDRUSHKO L M	39	BARKOVSKIY L M	47	BOGDANOV V L	68
ANDRZEJ M	83	BARSUKOV K A	34	BOGOLYUBOV N N	22
ANGELOVA M K	44	BARTKE YE	62	BOGOMOLOV V A	57
ANIKEYEV B V	80	BARTSCH H	79	BOKHAN P A	12
ANIK'YEV A A	73	BARULIN V N	40	BOKUN V CH	14
ANOSHIN A N	73	BARZAKH A YE	59	BOLONIN A A	65
ANSHON A V	19	BASHKIROV YE K	22	BOLOTOV A A	72
ANTIPENKO B M	1,32	BASIYEV T T	17	BOLOZDYNIA A I	55
ANTONOVA G F	78	BASOV N G	8,9,11,12,84	BOL'SHOV L A	48,80
ANTYUKHOV V V	15	BASUN S A	67	BONDAR' I I	59
ANUCHIN M G	84	BATARCHUKOVA N R	60	BONDAR' YE A	74
APANASEVICH P A	54	BATYGIN V V	47	BONDARENKO V S	30,31
APOLLONOV V V	34	BATYGOV A A	11	BONDAREV A N	81
APOSTOL D	65	BAUMRUK V	38	BORDZILOVSKAYA G I	43
ARAKELIAN S M	21	BAYDULLAYEVA A	68	BORISOV A YU	38
ARANCHUK V M	62	BAYEV V M	15,74	BORISOV V A	62
ARIPOV M M	73	BAYRAMOV B KH	22	BORISOV V I	33
ARISTOV A V	32,56	BAYYER V N	34	BORISOVA N F	51
ARISTOV YU V	30	BAZAKUTSA V A	78	BORODIN V G	84
ARKHIPKIN V G	21	BAZHENOV G P	84	BOROVIK P N	84
ARMENSKI S	83	BAZHENOV V YU	3,56	BOROVKOVA V A	59
ARTAMONOV V F	62	BAZHIN N M	74	BOROVSKIY A V	85
ARUTYUNYAN R V	80	BAZHULIN S P	12	BORZDOV G N	47
ASHUROV M KH	32	BAZYLEV B N	84	BORZECKI M	9
ASKAR'YAN G A	7	BEDILOV M R	74	BOSTANJOGLO O	78,81

BOTSMAN A V	60	CHERENKOV G A	44	DERYUGINA A I	48
BOTYGINA N N	15	CHEREPKOV N A	60	DEVYATYKH G G	63
BOUSSELJOT R D	19	CHERKASOV A S	6,56	DEYEV V N	31
BOYKO S A	22,54	CHERKASOV YU A	57	DIANOV YE M	23,40,41,47,63
BOZADZHIEV B	44	CHERNEGA N V	24	DIDENKO A N	35
BOZHEVOL'NYY S I	30,40	CHERNOV A A	66	DIDENKO A YA	69
BRAZOVSKAYA N V	36	CHERNYAVSKIY A F	75	DITE A P	81
BRAZOVSKIY V YE	36	CHERNYKH V A	40	DIVIN V D	12
BREDIKHIN V I	26	CHGUNOV A YU	8	DIVNICH N P	67
BRODIN M S	4,68	CHICHININ A I	14	DLUGUNOVICH V A	78
BRODOV M YE	17	CHIGORKO A B	17	DMITRIYEV V A	33
BRODSKIY A M	22	CHIKISHEV A YU	76	DNEPROVSKIY V G	83
BRONEVOY I L	68	CHILINGARYAN YU S	21,30	DOBKIN V G	38
BRUDNYY V N	26	CHILIS D	22	DOBRETSOV A V	41
BRUECKNER V	68	CHIRIKOV S N	51	DOBROTVORSKIY S S	79
BRYKSIN V V	22	CHIRIMANOV A P	85	DOBYCHIN S L	74
BRYNZAR' V I	3	CHIRKOV L YE	31	DOKTOROV YE V	75
BRYSEV A P	31	CHIRVONYY V S	59	DOLGOV V A	80
BUCHENKOV V A	5	CHIS I	9	DOLOTKO V I	18
BUCINA P	51	CHKALOVA V V	30	DOLOTOV L YE	30
BUDA M	31	CHMEL' A YE	41	DOMANSKI A	48
BUDKIN L A	62	CHOJNACKA A	9	DOMIDOV B S	38
BUETTNER E	36	CHORVATOVA Z	29	DONIN V I	13,85
BUGAYENKO O I	62	CHRISTALL K D	78	DONSKOY D M	32
BUGRIMOV S N	12	CHUBUKOV I YA	59	DONSKOY YE M	63
BUKHMARINA V N	74	CHUKIN G D	75	DOROFYEV I A	7
BUKOVA YE S	51	CHURAKOV V V	10	DOVGALENKO G YE	57
BUKREYEV V S	13	CHURBANOV M F	63	DOVGAN' A P	40
BULATOV V P	51	CHUYEV YU	36	DOVGOSHEY N I	80
BULYGIN A R	57	CHUYKO V A	46	DRAGULINESCU D	9
BUNKIN A P	74	CHVOJKA M	14	DRIK P G	62
BUNKIN F V	78,84	CIURA A I	9	DRIMANOV A P	11
BURAKOV V S	74	COJOCARU E	18	DRITS V V	26
BURDEL' K K	83	CORCIOVEI A	49	DROBNIK A	5
BURLAK G N	31	CVIJETIC M	41	DROBOT M I	40
BUROV L I	68	CYBULSKI A	68	DROBYAZKO S V	82
BUROVA N A	57	CZECHOWICZ R	21	DROZDOV B G	77
BURYAKIN A V	81	CZERNOW A	41	DROZDOVA O V	1
BURYKIN N M	56			DRUZHININ A V	63
BUSLAYEVA V YE	62	DAMIAN V	65	DRUZHININ V V	3
BUTASHIN A V	2	DANAILA L	88	DUBNISHCHEV YU N	62
BUTS V A	34	DANCHUK V D	2,75	DUBOV V P	74
BUTTA V I	40,45	DANILEYKO YU K	30	DUBOVETS V G	54
BUTYLKIN V S	26	DANILIN B S	41	DUBOVIK A S	17
BUZULUTSKOV A P	62	DANILOV A YE	86	DUBROVSKIY V A	23
BYK A P	75	DANILOV V P	59	DUBROVSKIY V M	17
BYKOV A M	28,41	DANILOV V V	19	DUDIN A YU	8
BYKOV V P	87	DANILYCHEV V A	8,9	DUDKO G D	42
BYKOVSKIY YU A	85	DARBINYAN S M	68	DUMBRAYANU R V	32
BYSHEVSKIY O A	31	DARZNEK S A	3	DUMITRAS D C	38
		DATSYUK V V	36	DUTU D C A	38
CAMPEAN C D	81	DAUGEL'-DAUGE A G	27	D'YAKONOV G P	84
CHALTYKYAN V O	24	DAVYDENKO V A	28	D'YAKONOV M I	69
CHALYK YU V	87	DE S T	57	DYKHNE A M	81
CHANDJIEWA B	15	DEGODA V YA	32	DYKMAN I M	69
CHANKIN A V	26	DEGTYAREV V S	62	DYKMAN M I	22
CHAPLANOV A M	82	DELETS A S	62	DYUMIN A N	63
CHAPOVSKIY P L	67	DELONE N B	59	DZHAGAROV B M	59
CHARKINA T A	63	DEMOVETSKIY V V	9	DZHALIASHVILI O A	38
CHASHCHIN S P	64	DEMCHENKOV V P	41	DZHIDZHOMYEV M S	83
CHAYKOVSKIY A P	52	DEMCHUK M I	60	DZHOTYAN G P	28
CHEBOTAYEV V P	25	DEMENT'YEV D A	41	DZWIGALSKI Z	9
CHEBURKIN N V	9,10	DENEZHNIK YE N	57	DZYUBAN N V	27
CHECHENIN N G	83	DENISOV N N	2		
CHEGOTOV M V	29	DENISOV V P	59	EBERLEIN D	16
CHEKALINSKAYA YU I	37	DENISYUK YU N	57	EDELMAN P	83
CHEKAN A V	41	DERBENEV A S	11	EGIBYAN A V	21
CHEKANOVA N T	82,87	DERGUZOV V I	41	EKTOV A I	40
CHEKIN S K	9	DERNYATIN A G	59	ELSSNER K E	65
CHENSKAYA T B	18	DERYUGIN A A	27	ENDRUSCHAT E	78,81
CHERDYNTSEVA G A	72	DERYUGIN I A	48,60	EPSHTEYN E M	69
CHEREDNIK I V	47	DERYUGIN L N	41	EXNER H	79

FADEYEV A P	30	GEDA YA M	78	GRINCHENKO V T	11
FAM LE KIYEN	22	GEKTIN A V	63	GRISHANOV A N	57
FAM VAN KHOY	47	GELLER M A	81	GRITSAN N P	74
PARKAS E	6	GEORGIYEVSKIY YU S	52	GRITSENKO A N	11
PARKAS GY	69	GEORGOBIANI A N	69	GRODNEV I I	45
PARKAS J	63	GERASIMCHUK A G	9	GROENE R	63
PAYNBERG YA B	34	GERASIMENKO P V	79	GROMOV V V	1
PAYNSHTEYN A G	24	GERGEL' I V	51	GROZNOV M A	20,21
PAYZULOV F S	36,55	GERSIMOV S B	51	GRUDININ A B	47
FEDINA G N	81	GERST A V	4	GRUZDOV V G	69
FEDORCHENKO A M	28,79	GESEMANN R	59	GRUZINTSEV A N	69
FEDORIN V L	65	GHEORGHU O C	61	GUBANOV V A	74,75,77
FEDOROV F I	47,48	GINZBURG I F	36	GUBENKO S I	81
FEDOROV G M	70	GITSU D V	3	GUDOSHNIKOV S A	42
FEDOROV M V	34,35,76	GIVARGIZOV YE I	81,83	GUGOV I B	31
FEDOROV YU K	5	GLADUSH G G	82	GULAKOV I R	88
FEDOSEYEV V N	59	GLADUSHCHAK V I	75	GULIYEV I S	53
FEDOTOV S I	86	GLADYSHCHUK A A	75	GULYAYEV V S	70
FEKLISTOV D S	33	GLEBOV A S	1	GULYAYEV YU V	21
PEOFILOV S P	67	GLEBOV L B	67	GUMENYUK A F	32
FERBER R S	71	GLOTOV YE P	9,19	GUREYEV D	82
PEYZULLAYEV A A	53	GLOVA A F	15	GUREYEV D M	79,81
FIL' V A	62	GLOZMAN TS I	60	GURINOVICH G P	59
FILARETOVA G M	67	GLUKHOVA YE YE	39	GURKO A F	60
FILATOV YU V	15	GLUSHCHENKO YU V	50	GUROV I P	54
FILIMONOVA V A	51	GODIK V I	38	GURVICH A S	32
PILIN A I	81	GODLEVSKIY A P	52	GUSAROVA N I	17
FILIPPOV P G	14	GOEPEL K	42	GUSENKOV S N	75
FIN V A	57	GOL'DIN YU A	53	GUSEV A V	63
PINK F	20	GOL'DMAN S YU	7	GUSEV E B	81
FIRSOV V A	26	GOLITSYN A V	2	GUSEV V A	42
FIRSOVA M M	30	GOLOVCHENKO YE A	23	GUSEV V E	31
FLACH S	43	GOLOVLEV V V	50	GUSEV V V	23
FLEYSHER V G	67	GOLUBENKO G A	18,79	GUSHANSKAYA N YU	77
FOERSTER G	42	GOLUBENTSEV A F	7	GUSHCHA A O	68
FOK M V	70	GOLUBEV A V	64,84	GUS'KOV S YU	84,86
FOMICHEV A A	6	GOLUBEV G P	25,75	GUSYATNIKOV V N	70
POMIN V V	87	GOLUBEV S A	84	GUT'KO A D	42
FORBRIG B	40	GOLUBEV V S	9	GUZHOVA I P	64
FOTAKIS C	69	GOLUBTSOV A A	48	GVOZDIKOV V S	40,42
FOTIADI A E	12	GONCHARENKO A M	42		
FRANKOWSKI G	63	GONCHAROV V K	81	HAERTIG TH	42
PREYBERG A M	38	GONCHAROV YU G	78	HAESSNER A	80
PREYER W	20	GONCHUKOV S A	18	HARMER A L	42
FRIDENTAL YA K	4	GORBAN' I S	32,74,75,77	HASICIK J	63
FRITZSCH H	44	GORBUNOV L M	29	HENTSCHBEL P	61
FRIZEN A G	15	GORDIYENKO V M	33	HERISANU N	65
FROMZEL' V A	5	GORDON YE B	14	HERMANOWSKI W	41
FRONCZYKOWSKI J	7	GORELENOK A T	69	HERMONEIT B	33
FRONTS K	32	GORELIK G YE	81	HEUMANN E	20,80
FURTSEV V G	75	GOROBCHENKO V S	28	HILBERT M	6
		GORODYSKIY A V	76	HOFFMANN J	68
GACEK A	85	GOROKHOV A A	84	HOFMANN D	42
GADIYAK G V	7	GORSHKOV B G	69	HOLEIKO K	61
GAD'MASHI Z P	18	GORYACHEV B V	48,50	HORVATH Z GY	69
GADZHIYEV S A	63	GOSTISHCHEV V K	39	HUEBNER E	61
GAKHOVICH D YE	28	GOVOROV S V	75		
GALAKTIONOVA N M	2	GRABAR A A	75	IGNAT'YEV M B	82
GALANIN M D	87	GRABCHIKOV A S	28	IGUMNOV YE A	51
GALKIN YU S	51	GRACHEVA M YE	32	ILIEVA M	57
GALUMYAN A S	74	GRANDBERG K I	78	ILIEVA R	57
GALUSHKIN M G	27	GRASYUK A Z	11	IL'IN D V	84
GALYNSKIY M V	48	GREBENNIKOV V A	82	IL'IN G I	15
GANCHERENOK I I	68	GRECHUSHNIKOV B N	17	IL'IN V M	64
GANDURIN A L	51	GREKHOV A M	2	IL'INOVA T M	72
GANICHEV S D	68	GRIDNEV N S	81	IL'INSKIY YU A	26
GAN'SHIN V A	42	GRIGORIU C	9	IM TKHEK-DE	21
GARMOLA Z	15	GRIGOR'YEV I S	26	IOGENSEN L V	43
GASTEY S V	23	GRIGOR'YEV N N	70	IONIKAS L	66
GATI L	6	GRIGOR'YEV V N	1	IPATOVA I P	22
GAVRICHKOV S A	78	GRIGOR'YEVA V N	36	IRIKOVA L A	60
GAYNER A V	23,25	GRIMAL'SKIY V V	31	IRLIN A V	42
GAYSENOK V A	72	GRIMBLATOV V M	8	ISAKOV V R	12



ISAKOV V V	80	KARD P	18	KISELEV K V	73
ISAYEVICH A V	74	KARPENKO V A	42	KISELEV V F	83
ISHCHENKO A V	14	KARPILENKO A V	14	KISELEVA I N	26
ISKANDEROV N A	54	KARPOV G N	9	KISELEVA T P	64
ISMAILOV I	5	KARPOV L G	29	KISLETSOV A V	67
ISPIRYAN K A	68	KARPOV V P	43	KITAYEVA V F	30
ISTOMIN M I	12	KARPOVICH I A	19	KIZEVETTER D V	43
IVANAUSKAS P	25	KARPUKHIN S N	28	KIZHAYEV K YU	4
IVANCHENKO A I	9	KARPUN'KIN A V	27	KLEIN G	44
IVANCHENKO V A	70	KARTHE W	36	KLEINSCHMIDT J	80
IVANITSKIY V P	80	KASHKAROV P K	83	KLEMENTOV A D	13
IVANOV A P	52	KASHNIKOV G N	12	KLEPACH N I	80
IVANOV A V	17	KASK N YE	70	KLIBANOV M V	58
IVANOV I TS	62	KASYMDZHANOV M A	73	KLIMASHINA A G	6
IVANOV L M	23	KATKOV V M	34	KLIMOV B N	70
IVANOV M A	60	KATULIN V	82	KLOKISENER S I	33
IVANOV M B	3	KAUFMANN CH	80	KNYAZEVA A A	76
IVANOV S V	42	KAYDASHEV YE M	83	KNYAZEVA B A	86
IVANOV V I	52	KAZANSKAYA N F	56	KOBIZSKOY V I	53
IVANOV V S	59	KAZARYAN A K	70	KOBYLYAKOV V A	78
IVANOV V SH	42	KAZARYAN M A	67	KOCH E O	8
IVANOVA L M	77	KAZARYAN R A	21	KOCHAROVSKAYA O A	14
IVANOVSKIY G P	11	KAZARYAN V R	21	KOCHEGUROV V A	87
IZMAYLOV A CH	8	KAZHUKAUSKAS V	67	KOCHELAP V A	36
IZMAYLOV I A	36	KEBEDZHIYEV A G	40	KOCHIYEV G G	73
IZRAILEV I M	84	KECHYANTS A M	21	KOEHLER TH	59
JABCZYNSKI J	17	KELDYSH L V	29	KOKANYAN E P	70
JAKE M	64	KEMPE N	36	KOKHANENKO G P	50
JANKIEWICZ Z	14,15,17,20	KERNER B S	7	KOKHANOVSKIY S A	72
JANKU V	38	KERSTAN P	68	KOKHAKHAROV A M	59
JANNSON J	55	KESEL'MAN I G	62	KOKHMAN'SKI S	35
JANNSON T	55	KETSKEMETY I	6	KOKODIY N G	61
JANULEWICZ K	7	KHABAROV S E	71	KOLB A A	72
JEWORREK G	80	KHABIBULIN B M	2	KOL'BE S S	17
JODLOWSKI L	31	KHABIBULLAYEV P K	32,73,80	KOLEROV A N	1,76
JOHANSEN H	79	KHALTURIN V I	53	KOLESHNIKOV V N	75
KABANOV A V	63	KHAN M G	87	KOLESOV G V	33
KABANOV I A	12	KHANDOGIN V A	57	KOLESOV I V	85
KACHANOV A A	15	KHAPAYEV A M	35	KOLEV N	83
KACHURIN O R	15	KHAPOV YU I	13	KOLOSOV YE YE	70,71
KADNIKOV O G	15	KHARCHENKO A P	18	KOLTOK YU V	19
KALACHEV YU L	53	KHARCHENKO L YU	1	KOLYAGO S S	1
KALAGIN A P	34	KHARSHAK A A	41	KOMAROV V M	84
KALAYDZIDIS O V	1	KHAVINSON L P	65	KOMITOV L K	43
KALBARCZYK A	78	KHAYDAROV D V	47	KOMOV V I	70
KALIBERA J	9	KHAYTLINA R YU	66	KONARSKI S	38
KALINICHENKO M I	42	KHIZHNYAK A I	64	KONONOV V P	78
KALININ B N	23	KHLEBNIKOV A G	56	KONOV V I	13
KALININ YU G	34	KHODOVA G V	24	KONOVALOV I P	51
KALINOV V S	12	KHOKHA L G	71	KONOVALOV N V	48
KALINUSHKIN V P	23	KHOLIN I V	8	KONSTANTINOV N YU	1
KAL'NITSKAYA T YA	64	KHOLOMAY B V	35	KONSTANTINOVA A F	17
KALUGIN V V	57	KHOMICH N YU	54	KONTRIEWICZ A M	83
KALUZNY J	8	KHORUNZHIY I A	39	KOPEYKIN V M	52
KAMALOV V P	57	KHOTYAINITSEV S N	43,63	KOPRIVA M	38
KAMINSKIY A A	38	KHOTYAINITSEV V N	68	KOP'YEV P S	76
KAMRUKOV A S	2,17	KHRUSHCHEV I YU	47	KOPYTIN YU D	52
KAMYSHAN S V	12	KHURGIN YU I	76	KORESHEV S N	58
KANDIDOV V P	74	KHUTKO I S	52	KORKISHKO YU N	42
KANEVSKIY D Z	23	KIEWEL J	43	KORNEV A F	21
KAPISHNIKOV N K	55	KIPEN' A A	4,70	KORNEVA A N	62
KAPLYANSKIY A A	15,16	KIPSHAKBAYEV A I	11	KORNILOV B A	49
KAPTURAUSKAS I	67	KIREYEV A N	74	KORNILOV S T	9,11,51
KARABAN' V I	67	KIREYEV S YE	54	KORNIYENKO G P	40
KARASEK M	67	KIRICHENKO T K	48	KORNIYENKO L S	12,20
KARASEV V V	81	KIRILENKO YE K	61	KORNIYENKO N YE	27,28
KARASEVA L G	42	KIRILLOV M A	64	KORNYUKHIN G A	35
KARASEVA L V	39	KIRILLOV S A	76	KOROBKIN V V	85
KARASIK A YA	1	KIRKIN A N	50,86	KOROLENKO P V	7
KARAVASILEV P R	82	KIRMUSOV I P	10	KOROLEV V V	74
KARAYAN A S	23	KIR'YANOV A V	20	KOROSTIK K N	4
	36	KIRYUKHIN YU I	59	KOROTEYEV N I	38,75
	21	KISELEV D F	30	KOROTKOV N N	36

KOROTKOV YU YA	20	KUKHARCHIK P D	56	LESNOV I A	11
KOROVIN L I	22	KUKHARENKO A V	57	LETOKHOV V S	59
ROSEVICH V M	80	KUKHTAREV N V	4,57	LEVIN M B	6,56
KOSHCHAVSTSEV N G	17	KUKK P L	33	LEVIT A L	36
KOSHCHUG O S	77	KULAKOVSKIY V D	76	LEVKOVSKIY A A	84
KOSHELEV V N	87	KUL'CHIN YU N	43	LEVSHIN A YE	72
KOSICKA J	48	KULEVSKIY L A	54	LEYBENGARDT G I	60
KOSOBUKIN V A	23	KULIKOV O L	80	LEYKO S T	49
KOSOBURD T P	48	KULIPANOV G N	35	LIKHANSKIY V V	15,27,48
KOSTAREV G I	43	KULISH V	35	LINKIN V	73
KOSTIN B S	52	KUMEKOV S YE	68	LIPKO A L	73
KOSTOV M K	20	KUPERSHMDT V YA	72	LIPPMANN H	80
KOSTYUK G K	46	KURASHOV V N	48	LIPPMANN W	16
KOTKIN G L	36	KURAYEV A A	23	LISIN V N	2
KOTOMTSEVA L A	20	KURBANOV K	2	LISITSA M P	22,54
KOVACHEV M	57	KURICHEVA O V	60	LISTVIN V N	47
KOVAL' A V	77	KURKOV A S	40	LITVINENKO V N	35
KOVALENKO S A	15	KURZENKOV V N	56	LIUKONEN R A	51
KOVALENKO V A	3	KURZYNSKI Z	9	LOBOV I D	63
KOVALEV A A	80	KUSHNIR O S	80	LOGGINOV A S	42
KOVALEV V F	23	KUTLIN A P	50	LOGINOV A P	64
KOVALEV V I	36,55	KUTNER V B	85	LOGUNOV A N	12
KOVGAN L N	53	KUZ'MENKO V A	59	LOKHNYGIN V D	6
KOVSH I B	11	KUZ'MICHEV V M	19	LOSKUTOV V S	52
KOVSHIK A P	71	KUZ'MIN M V	64	LU GUK DOK	8
KOZEL S M	47	KUZ'MIN R N	24	LUCHINSKIY D G	25
KOZHEVNIKOV A V	35	KUZ'MIN V N	49	LUCK K J	79
KOZHEVNIKOV I V	19	KUZ'MIN YU I	22	LUENKEMANN B	61
KOZHIN A A	39	KUZ'MINOV YU S	1,19	LUGOVSKIY A P	33
KOZHUKHAROV V S	31	KUZNETSOV A A	15	LUKIN I P	47
KOZINTSEV M S	76	KUZNETSOV A V	40	LUKIN K A	14
KOZLINER M Z	51	KUZNETSOV N A	39	LUKIN V P	15
KOZLOV G I	8	KUZNETSOV S P	26	LURINYKH V P	13
KOZLOV G V	78	KUZNETSOV V I	31	LUK'YANCHUK B S	78,80
KOZLOV N P	12	KUZNETSOV V N	64	LUK'YANOV D P	15
KOZLOV S A	39	KUZYAKOV YU YA	76	LUNIN B S	60
KOZLOVA N V	73	KVAPIL J	58	LUTOSHKIN V I	60
KOZLOVSKIY D A	56			L'VOV V I	13
KOZYREV YU P	85	LADYGIN I N	51	LYALIKOV A M	58
KRAFTMAKHER A YA	36	LADYZHENSKIY O B	84	LYALYASKIN A A	62
KRALIKOVA B	14	LANGBEIN U	43	LYUBAR' N N	37
KRAMER W	80	LARIONOV V V	50	LYUBIMOV V V	21
KRASHENINNIKOV V V	9	LATYNIN YU M	19	LYUDCHIK A M	76
KRASNOPEROV L N	14	LAVRENTYUK V YE	10	LYUK P A	4
KRAVTSOV N V	20	LAYSAA A I	4		
KRAYNOV V P	59	LAZAREV S YE	64	MACHEKHIN YU P	34
KRAYSKIY A V	56	LAZOVIC S	39	MAKARCHENKO O N	43
KRAYUSHKIN S V	33	LAZUKINA O P	64	MAKAROV G N	10
KREPELKA J	86	LAZUTKA A S	4	MAKAROV V G	7
KRESS D	43	LE QUOC MINH	20	MAKASHOVA L S	82
KRICHEVSKIY V I	18	LEBEDENKO V N	55	MAKSHANTSEV B I	80
KRIVOSHLYKOV S G	46,48	LEBEDEV A N	28	MAKSIMOVA I L	38
	49,64	LEBEDEV P V	9,15	MAKSIMTSEV S A	65
KRIVTSOV YE P	15	LEBEDEV L L	49	MAKUSHKIN YU S	87
KROEMER N	43	LEBEDEV S V	86	MALAKHOV V N	17
KRUMIN' A E	1	LEBEDEV V B	33	MALKIN A I	66
KRUPICKA V	64	LEBEDEV V D	62	MALKOV I P	73
KRUPKIN V KH	36	LEBEDEV V I	33	MALOSH J	51
KRUTIKOV V A	50	LEBEDEVA V V	24	MALOV V B	43
KRUTOVA L I	1	LEBEDEVA YE L	70	MALOV YU A	37
KRYLOV V A	64	LEBO I G	86	MAL'TSEV D V	74
KRYLOV V V	64	LEDERER F	43	MAL'TSEV YU V	76
KRYUCHENKOV V B	84	LEDNEVA G P	49	MALYKHIN K V	44
KUANG CHAN	22	LEHMANN B	82	MALYSH M M	9
KUBANTSEV M A	55	LEIDENBERGER G	64	MALYSHEV K N	64
KUBICKI J	7	LEKSINA YE G	70	MALYSHEV V A	22
KUCHAKOVA T A	32	LEMESHKO V D	69	MALYUGIN V I	43
KUCHIKYAN L M	28,41	LEMESHKO V V	27	MALYUKIN YU V	25
KUCHINSKIY V I	4,32	LEONETS V A	79	MALYUTA D D	80
KUCHMA I G	5	LEONOV P G	9	MALYY V I	27,28
KUDRYAVTSEV YE M	12	LEONOV YE I	71,74	MAMYSHEV P V	23
KUHL H D	44	LEONT'YEV P A	87	MANAKOV N L	24
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MANENKOV A A	2,69,87	MINASYAN V V	73	NAKHODKIN N G	86
MANICHEV I A	60	MINAYEV YU P	30	NALBANDOV L V	62
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MAN'KO V I	75	MINITSER I I	38	NAPARTOVICH A P	15,27
MANTSYZOV B I	24	MINKIN L M	7	NAROVSKAYA N P	81
MARANICHENKO N I	33	MINKOV B I	87	NASYROV I N	32
MARDEZHOV A S	65	MINKOV I M	18	NASYROV K A	7
MARINOV M R	31	MIRGORODSKIY V I	21	NAUMENKO G YU	70
MARIS Z	65	MIRONOV V D	8	NAUMENKO K P	39
MARKEVICH M I	82	MIRONOV V L	47	NAUMOV P B	36
MARKIN A S	26	MIRONOVA T V	56	NAYDENKOV A F	62
MARKOSYAN A A	2	MIROSHNICHENKO V I	34	NAZARENKO N A	74
MARKOV V B	58,61	MIROV S B	17	NAZARYAN YE KH	73
MARKOV YE V	75	MIRZAYEV A T	39,66	NAZVANOVA V A	1
MARMO S I	24	MIRZOYAN R G	86	NEPEDOV B K	75
MARMUR I YA	71	MIRZOYANTS G I	78	NEFED'YEV L A	58
MARTIROSYAN G V	28	MISHCHURNYY V A	32	NENCHEV M N	6
MARTYNOV V P	18	MISHIN V I	59	NEPOKOYCHITSKIY A G	81
MARTYNOVA T A	44	MISHIN YU N	46	NERSESOV E A	35
MARTYNOVICH YE F	76	MISOCHKO YE YA	14	NESRULLAYEV A N	63
MARUSHCHAK V A	69	MITROGOL'SKIY O V	54	NESTEROVA Z V	29
MAR'YENKOV A A	46	MIYDLA P	13	NEUSTRUYEV V B	63
MASLENNIKOV V L	79	MKHITARYAN E M	57	NGUYEN KHONG SHON	31,72
MASLOVA A A	75	MKRTCHYAN V YE	24	NGUYEN KUOK AN'	31
MASTEROV V F	76	MNATSAKANOVA T R	28	NIKIFOROV V G	6
MATIZEN YU E	18	MNUSKIN V YE	6,12	NIKIFOROVA G L	17,44
MATTS R E	1	MOGILEVICH V N	42	NIKISHIN S A	4
MATULIS A	24	MOGIL'NITSKIY S B	48,50	NIKISHIN YE L	32
MATVEYEV A N	26	MOKHNATKIN A V	66	NIKITENKO V A	75
MATVEYEV V T	86	MOKHUN' I I	56	NIKITIN M M	35
MATYUKAS A P	65	MOKROV V B	85	NIKITIN V V	3
MATYUKHINA N A	56	MOLDAVSKAYA V M	70	NIKOLAYEV A B	32
MAYEVSKIY S M	57	MOLODTSOV V V	30	NIKOLAYEV A V	39
MAYEVSKIY V M	63	MONASTYRNYY YE A	52	NIKOLAYEV M V	70
MAYOROVA N I	32	MORGULEV S A	57	NIKOLAYEV V N	1
MAYYER A A	44	MORICHEV I YE	21	NIKOL'SKAYA O K	2
MAZARCHENKOV V A	79	MORJAN I	9	NIKONOROV N V	67
MAZHAROVKSIY A M	86	MOROZENKOV A A	9	NIKONOVA Z S	41
MEDNIKOV S I	81	MOROZOV N V	13	NIKULIN A B	61
MEDRES B S	80	MOROZOV O V	15	NIKULIN N G	36
MEDVEDEV B A	23	MOROZOV V I	11	NIYLISK A I	4
MEDVEDEV D K	9	MOROZOV V N	40	NOVIKOV G YE	2
MEKLER K I	86	MOROZOVA YE A	21	NOVIKOV M A	65
MEL'CHENKO S V	29	MORYASHCHEV S F	78	NOVIKOV V A	26
MEL'NIK G F	51	MOSHKALEV S A	75	NOVIKOV V K	1
MEL'TSER B YA	76	MOSKVITINA YE N	76	NOVOKHATSKIY V V	60
MELZER V	80	MOSTEPANENKO V M	66	NOWICKI R	10,31
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MESYATS G A	84	MUGRA A K Y	4	OBLIZIN A N	85
MEZHEVOV V S	80	MUKHA V A	82	OBUKH V F	43
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MIHAILESCU I N	81	MUMINOV I	71	ODINTSOV A I	54
MIHALACHE D	49	MURATOV V M	16	ODINTSOV V I	12
MIKAYELIAN G T	4	MURAV'YEV A V	3	ODULOV S G	1,24,26
MIKHALEVICH V G	54	MURAV'YEV I I	84	OGANESYAN K B	35
MIKHALEVICH YU YU	51	MURAV'YEV V V	57	OGNIVENKO V V	34
MIKHALEVSKIY V S	42	MURINA T A	39	OGUOROK D D	51
MIKHAYLOV V A	1	MURINA T M	67	OGURTSOVA L A	28,71
MIKHAYLOV V I	75	MURZIN A G	5	OKHOTNIKOV O G	3
MIKHAYLOV V P	60	MUSHINSKIY V P	88	OKOROCHKOV A I	17
MIKHAYLOV YU A	86	MUSIYACHENKO V D	42	OKSMAN YA A	71
MIKHAYLOVA E	44	MYL'NIKOV V S	20,21	OLEYNIKOV A D	16
MIKHAYLOVSKAYA L V	8	MYSLIVETS S A	13	ONOSHO R N	55
MIKHEYEV A YU	78			OPEKAN A G	12
MIKHKEL'SOO V T	28	NAATS I E	52	ORAYEVSKIY A N	49
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MILEVA G M	71	NAGIBINA I M	54	ORELKIN N F	64
MILL' B V	2,17	NAGLI L YE	71	ORISHICH A M	10
MILOVSKIY N D	54	NAGORNAYA L L	28	ORLOV S YU	21

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ORLOV V YU					
ORLOVICH V A					
ORZEGOWSKI H					
OSE E					
OSIKO V V					
OSIPENKO P P					
OSIPOV V M					
OSIPOV V V					
OSTAPENKO A V					
OSTROVSKIY V A					
OVANOV V A					
OVCHINNIKOV A V					
OVCHINNIKOV P A					
OVCHINNIKOV V M					
OVVYAN P P					
PAK S					
PAK S K					
PAKHOMOV G V					
PANAYETOV V G					
PANCHENKO A N					
PANCHENKO L N					
PANDO K L					
PANFILOV I P					
PANIN V F					
PANKOV D T					
PANKOV V L					
PANKRATOV V V					
PANOV A A					
PANSOV V N					
PANTELEYEV V I					
PAPAKIN V F					
PARASHCHUK V V					
PARFENOVA T V					
PARNAS A L					
PASHININ P P					
PASHININA N P					
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PATRUSHEV G YA					
PAVLOV A P					
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PERSIANTSEV M I					
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PERTSEV A N					
PETRASH G G					
PETRIKOV V D					
PETRISHCHEV V A					
PETROSYAN K B					
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79	PETUKH O M	23	PROTASOV YU S	12	
28	PETUKHOV V O	10	PROTASOVA V I	1	
36	PIKHTELEV A I	62	PROTSENKO I YE	49	
60	PILIPETSKIY N F	48,80	PROTSENKO YE D	9,18,51	
32	PILIPOVICH V A	16	PRUCHNIK H	44	
52	PINSKIY YU A	1	PRZHEVUSKIY A K	32	
51	PIOHOLA W	15	PRZHIBEL'SKIY S G	24	
84	PIRAGS I YA	71	PUGACHEV A T	80	
60	PIROGOV V G	76	PUODZHYUKINAS L Y	65	
49,69	PIROGOV V YU	24	PUSTOVALOV V K	39,52	
38	PIROGOVA I YU	26	PUSTOVALOV V V	23	
70	PIRYATINSKIY YU P	4,71	PUTILIN A N	40	
12	PISARENKO G S	79	PUZANOV S L	62	
36	PISARENKO V G	79	PUZEWICZ Z	21	
40	PIS'MENNYI V D	15,80	PYATAKHIN M V	11	
	PITATELEV M M	35	PYATAKOV P A	31	
34	PIVINSKIY YE G	5	PYSHKIN O S	71	
1	PLACHENOV A B	50			
72	PLATONENKO V T	33,83	RABINOVICH E M	7	
82	PLETNEVA N I	21	RADCHENKO YE D	75	
29	PLETYUSHKIN A A	77	RADDEV P	45	
78	PLINSKI E F	10	RADIN A M	50	
24	PLYUSNIN V F	60	RADLOFF W	9	
45	POBEDINSKIY G G	51	RAGUL'SKIY V V	27	
52	PODAVALOVA O P	21	RANKIEWITZ W	82	
44	PODMOSHENSKIY I V	10	RATSEYEV S A	69	
27	PODOBA V I	58	RAYEVSKIY I M	7	
11	POKASOV V V	52	RAYTSIMRING A M	77	
69	POKHSRARIYAN K M	28	RAZDOBARIN G T	75	
11	POKORA L	16	REBANE K K	38	
11	POKROVSKAYA F S	28	RECHKIN O I	27	
11	POKROVSKIY V P	21	REICHE P	33	
75	POLISHCHUK R F	65	REICHEL G	82	
53	POLITYKO S I	36	RENSCHEN C	45	
81	POLOZKOV N M	1,19	REPIN V N	41	
17	POLOZKOV S A	63	REKICHA R	77	
20	POL'SKIY YU B	15	RESHETNIKOVA T O	21	
37	POLUEKTOV N S	74	REZNIKOV I V	88	
55	POLUSHKIN V G	72	RICHTER K	82	
85	POLYAKOV V V	39	RIEMANN M	15	
44	PONATH H E	43	RIMEYKO R	22	
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57	PONEZHA G V	27,28	RIVLIN L A	61	
71	PONEZHA YE A	27,28	RIZAK V M	75	
51	PONOMARENKO A G	9,10	RODIN A M	54	
82	PONOMAREV I V	35	ROGOV S A	56	
1	PONOMAREV YU N	53	ROMANCHENKO I P	2	
81	POPECHITS V I	33	ROMANOV A V	16	
76	POPESCU GH	65	ROMANOV G S	84	
49	POPOV A K	13,21	ROMANOVSKIY O A	53	
85	POPOV A V	67	ROSHCHINA T N	54	
62	POPOV O I	65	ROSLYAKOV S N	56	
68,69	POPOV S N	19	ROTARU A KH	24	
31	POPOV V K	33,83	ROTHE A	45	
78	POPOVA YE A	26	ROVINSKIY V V	75	
32	POPUSHOV V V	3	ROZANOV N N	24,39	
9	PORTNOY YE L	4,32	ROZANOV V B	84,86	
48	POSUDIN YU I	71	ROZENTAL' A I	4	
52	POSUKH V G	10	ROZHDESTVENSKAYA N B	27	
88	POTAPOV V K	79	ROZNIAKOWSKI K	5	
67	POTEKHIN V K	49	RUBAN V A	63	
71	POTYLITSYN A P	34	RUBANOV A S	55	
51	POYEDINCHUK A YE	14	RUBIN L B	78	
28	POYZNER B N	37	RUDENKO YE N	25	
83	PRANYAVICHYUS L I	65	RUDKOVSKAYA V F	48	
33	PREDTECHENSKIY YU B	74	RUDNITSKIY A L	77	
48,49	PRILEZHAYEV D S	5	RUEHLE K	80	
31	PRISHIVALKO A P	49	RUPASOV A A	86	
21	PRIYMAR A A	38	RURUKIN A N	10	
42	PRIZ I A	19	RYABENKOV V I	26	
67	PROKHOROV A M	2,23,34,37	RYAZANTSEVA N V	34	
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RYUMTSEV YE I	71	SERGEYEV V P	41	SHUBERT D	72
RZEPKA J	10	SERKIN V N	41	SHUBIN V V	19
RZHEVSKIY A V	8	SEROV R V	17	SHUBINA N N	73
		SEROV V N	39	SHUBOCHKIN L P	38
SAAKYAN D B	68	SEVAST'YANOV B K	74	SHULENIN A V	6
SAFONOV A A	19	SHAFEYEV G A	78	SHUMAY I L	75
SAFONOV V P	70	SHAKIROV R G	9	SHUMOVSKIY A S	22,25
SAGITOV S I	11	SHALYAYEV M F	26	SHUMSKIY S A	86
SAKYAN A S	8	SHANANIN R A	10	SHUR V L	65
SALIKHOV KH M	67	SHANDAROV S M	58	SHUYSKIY A A	77
SALIN YU N	66	SHANDAROV V M	39	SHVARCHUK YE A	64
SALIVON G I	75	SHANGINA L I	39	SHVETS V A	65
SAL'KOV YE A	68	SHAPIRO D A	85	SIDORIN A V	30
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SAMGINA T YU	75	SHARABARIN YE V	16	SIDOROV V A	20
SAMOYLOVA R I	77	SHARAFUTDINOV R M	45	SIDORUK N V	50
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SARKISOV O M	51	SHASHKOV YE V	17	SIMANOVSKIY D M	84
SARKISOV S E	2	SHASTIN V N	3	SIMASHKEVICH A V	77
SARZHEVSKIY A M	88	SHATALIN S V	47	SINICHKIN YU P	11
SATTAROV D K	45	SHATIN M YU	56	SINIKAS A G	20
SAUER E	80	SHATOKHIN V I	65	SINITSYN G V	56
SAUTENKOV V A	3	SHATOVA L D	84	SINKEVICH V I	46
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SAVEL'YEV D A	19	SHCHERBAKOV A G	71,74	SKALA J	14
SAVEL'YEV I O	31	SHCHERBAKOV A S	44	SKLIZKOV G V	86
SAVEL'YEV V P	76	SHCHERBAKOV I A	1,2	SKLYANKIN A V	72
SAVITSKIY V K	61	SHCHERBAKOV V N	52	SKLYARENKO I YA	53
SAVOST'YANOV V A	32	SHCHERBAKOV YE A	46	SKLYAROV O K	46
SAVUSHKIN A P	36	SHEGEDA A M	2	SKOBELKIN V I	40
SAYECHNIKOV V A	68	SHEKHTER A B	39	SKRIPACHEV I V	63
SAZHINA N N	9,10,19	SHELAYEV A N	20	SKRIPKO A S	56
SAZONOV V N	70	SHELEPIN L A	49	SKUBIS A	15
SCHALGE R	33	SHEPEL' B N	76	SKVORTSOV L I	41
SCHASTAK S	20	SHEPELEV G V	87	SLABKO V V	13
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SCHMIEDBERGER J	14	SHERMAN A	13	SLEPYAN A YA	23
SCHRAMM W	8	SHERMAN V YE	84	SLEPYAN G YA	23
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SCHULTZE D	33	SHEVEL' S G	68	SLOBODYANYUK A I	72
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SCHULZ W	47	SHIBANOV YE B	53	SMIRNOV A G	65
SCHWIDER J	65	SHIGALEV K A	6	SMIRNOV A YA	23
SEGLIN'SH YA A	1	SHIKHANOV A S	86	SMIRNOV B M	36
SEIFERT O	45	SHILOVA M V	70,71	SMIRNOV V G	65
SEKATSKIY S K	59	SHIRAN N V	63	SMIRNOV V N	82
SEKOWSKI B	47	SHIRKOV A V	30	SMIRNOV V V	57,75
SELISHCHEV A V	44	SHISHANOV A V	57	SMIRNOVA L V	27
SELIVANOV S I	62	SHISHKOV V F	58,61	SMOL'SKIY I L	66
SELIVANOV V V	11	SHKADAREVICH A P	2,74	SMOL'YANINOV I I	78
SEMAK D G	72	SHKLOVSKIY YE I	1	SMUROV I YU	82
SEMAK V V	80	SHKLYARIN V G	74	SMUSHKOVA V I	63
SEMENOV A B	45	SHLENOV S A	55	SNOPKO V N	78
SEMENOV V N	41	SHLIFER A L	41	SNYTNIKOV V N	10
SEMENTSOV D I	16	SHLITERIS E P	18	SOBOLEV N N	15
SEMEROK A F	26	SHMAL'KO A V	43	SOBOLEV V A	11
SEMEYKIN N P	62	SHMAYENOK L A	84	SOBOLEWSKI A	31
SEMEYKINA N A	62	SHMELEV G M	31,72	SOKOL A A	80
SENATOROV K YA	42	SHOKHUDZHAYEV N	5	SOKOLINA V A	76
SENATOROV YU M	82	SHOPA YA I	80	SOKOLOV N S	23
SEN'KO I M	40	SHPAK A M	22,54	SOKOLOV V A	7
SENKOV N V	3	SHPAK M T	64	SOKOLOV V N	56
SEREGIN A M	10	SHREDER R	72	SOKOLOVSKAYA A I	24

SOLOLOVSKIY R I	24	SUVOROV K G	85	TOPOROV V V	22
SOLDATOV A N	16	SUVOROV M B	36	TOPTYGIN D D	74
SOLNTSEV M V	53	SUYNOV S KH	43,66	TORNOW W	81
SOLNTSEV V M	1	SUYNOV V KH	66	TOTH I	63
SOLODOV A M	53	SVECHNIKOV V A	75	TRAVNIKOV V V	77
SOLODUKHIN A S	10	SVERDLOV B N	5	TRET'YAKOV G K	51
SOLOTONOV V I	16	SVET V D	41	TRIEBEL W	60
SOLOV'YEV A A	80	SVIRIDENKOV E A	74	TRINCHUK B P	6,12
SOLOV'YEV A P	30	SVIRIDOV K N	54	TROFIMOV V A	23,55
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SONIN A YU	11	SVITLINETS V P	80	TROPKIN YE N	36
SOROKA A M	9	SYCHUGOV V A	18,79	TRUNILINA O V	73
SOROKINA I S	62	SYRBU A V	3	TRUSHIN S A	10
SOSINA G F	60	SYSUYEV V M	44	TSARENKOV B V	73
SOSKIN M S	54,56	SZOZEPAN Z	7	TSEKHOMSKIY V A	67,71
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SOTSKIY A B	42	TAMANIS M YA	71	TSIKUNOV V N	25
SPANGENBERG P	45	TAMAZYAN S A	2	TSIMBEROVA I S	5
SPEVAK I S	55	TAMKIVI R P	33	TSOY T T	74
SPLAVNIK YU V	51	TAMME E	13	TSURANOV V G	42
SPOLACZYK R	65	TAMULEVICHYUS S I	65	TSVETKOV V A	77
SPORNIK N M	58	TARANENKO L V	68	TSVETKOV V N	88
STABINIS A	25	TARANENKO V B	54,56	TSVETKOV YE G	70
STADNIK YE V	53	TARANENKO YU N	31	TSVETKOV YU D	77
STANCHITS L K	84	TARASENKO N I	66	TSYASHCHENKO YU P	2,75
STANEV I	83	TARASENKO V F	29	TUCHIN V V	7,38,61
STANKIEWICZ S	46	TARASOV G G	22	TUMANOVA L A	3
STAN'KO N G	71	TARASOV M D	3	TURAYEV M T	22,25
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STARKOV A S	50	TARBIEV YU V	88	TURKIN N G	54
STARKOVSKIY A N	2	TARLYKOV V A	66	TURLIBEKOV T	73
STAROVOYTOV V S	10	TELENKOV S A	31	TUROVTSEV A V	43
STARTSEV A A	78	TEN V P	22	TUSNOV YU I	26
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STAUSKE M	47	TERLETSKIY B YU	42	TUZHNIKOV M V	69
STECKMANN D	47	TERNOVSKOV V T	15	TYCHINSKIY V P	27
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STEPANOV K L	84	TEZLEVAN V YE	69	UDAL'TSOV B V	7
STEPANOV N S	48	THIEDE G	36	UGLOV A A	82
STEPINA S A	7	TIGINYANU I M	69	UL'BIKAS YU	4
STEPOCHKIN A A	64	TIKHODEYEV S G	29	ULYBIN V A	25
STETSENKO S G	85	TIKHOMIROV A V	78	UMAROV B S	73
STOLPOVSKIY A A	62	TIKHOMIROV B A	53	UMAROV M	73
STORASTA YU	67	TIKHONCHUK V T	29,55	URAZBAYEV T T	72
STOYANOV G	45	TIKHONENKO V V	59	URBANK P	80
STRAKHOVENKO V M	34	TIMCHENKO N A	35	URIN B M	11
STRELKOV G M	52	TIMOFEYEV V I	15	URSAKI V V	69
STREL'TSOV V N	31,53	TIMOFEYEV V V	55	URYADOV V N	46
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STRIZHNEV V S	6	TIMOSHENKO T N	76	USOSKIN A I	50
STUDENIKIN YU YE	77	TIMOSHENKO V N	61	USOV P A	18
SUBASHIYEV A V	22	TIMPMANN K E	38	USTAVICH G A	66
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SUKHANOV YA A	78	TISHCHENKO A V	18,79	USTINOVSKIY N N	8
SUKHAREVA L K	1	TISHCHENKO V V	68	USTYUGOV V I	2
SUKHAREVA YE A	80	TISHKOVSKAYA L V	46	UZHVIYEVA I A	57
SUKHORUKOV A P	55	TITKOV A N	69	UZIYENKO D A	85
SULTANOV T T	56	TITKOV YE F	76		
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SURSKIY K O	74	TOKAREV A G	76	VAL'SHIN A M	33
SUSENKO L N	61	TOKAREV B B	63	VALUYEV A D	61
SUSHCHINSKIY M M	88	TOKAREVA A N	6,12	VALYAYEV A B	46
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VASIL'YEV B I	11	WIEDERHOLD G	80	ZAKHARENKO YU A	86
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VELETSKAS D	67	YAGMUROV V KH	28	ZAYARNYY D A	8
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VERGUNOVA G A	84	YAKOVKIN I B	25	ZELENSKIY A N	72
VERNIK S M	46	YAKOVLENKO S I	84	ZEMLYANSKIY V M	67
VETOKHIN S S	88	YAKOVLEV V A	77	ZEMSKIY S V	82
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VODOP'YANOV K L	54	YEFIMOV S P	33	ZHIZHIN G N	77
VODOVATOV I A	56	YEFIMOV V F	61	ZHMUD' V A	62
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VOKHNIK O M	19	YEGOROV V I	51	ZHUKOV V D	71
VOLKOV A A	78	YELAGIN V V	12	ZHUKOV YE A	75
VOLKOV A S	73	YELISEYEV P G	5,47	ZHUKOVSKIY V V	74
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VOLKOV S N	25	YEN'SHIN A V	26	ZILOV S A	76
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VOLKOV YU A	46	YEREMENKO A S	32	ZNAMENSKIY N V	12
VOLKOVA R V	13	YEREMEYEV N L	56	ZLOTAREVSKIY A V	81
VOLKOVA YE A	50	YERITSYAN O S	50	ZLOTAYKIN V M	19
VOLODIN YE B	46	YEROKHIN A I	55	ZLOT'KO A S	30
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VYGOVSKIY O B	84	YUROV V I	66	ZYURYUKINA O V	30
VYSIKAYLO P I	84	YUSHCHUK O I	74		
VYSLOUKH V A	47	YUSUPOV R A	73		
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VYSOTIN A L	21	ZABAVNOV A M	2		
VYSOTSKIY YU P	13	ZABELIN A M	9		
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